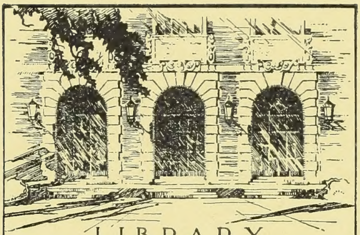

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CALENDAR, 1901-1902.

Session Begins	Wednesday, Sept. 11, 1901.
Examination for admission	Wednesday, Sept. 11, 1901.
First term begins	Wednesday, Sept. 11, 1901.
Literary Society Celebration—Thanksgiving Day	Nov. 28, 1901.
First term ends	Friday, Dec. 20, 1901.
Second term begins	Thursday, Jan. 2, 1902.
Literary Society Celebration	Saturday, Feb. 22, 1902.
Senior class exercises	Saturday, Feb. 22, 1902.
Second term ends	Saturday, March 15, 1992.
Third term begins	Monday, March 17, 1902.
Senior Thesis Reported	Thursday, May 1, 1902.
Sophomore class exercises	Thursday, May 1, 1902.
Field day	Thursday, May 1, 1902.
Final examinations begin	Friday, May 30, 1902.
Commencement sermon	Sunday, June 8, 1902.
Annual meeting of Trustees	Monday, June 9, 1902.
Military exercises, 4 p. m.	Monday, June 9, 1902.
Junior class celebration, 8 p. m.	Monday, June 9, 1902.
Alumni day	Tuesday, June 10, 1902.
Military exercises, 5 p. m.	Tuesday, June 10, 1902.
Address before Literary Societies, 8 p. m.	Tuesday, June 10, 1902.
Commencement day	Wednesday, June 11, 1902.

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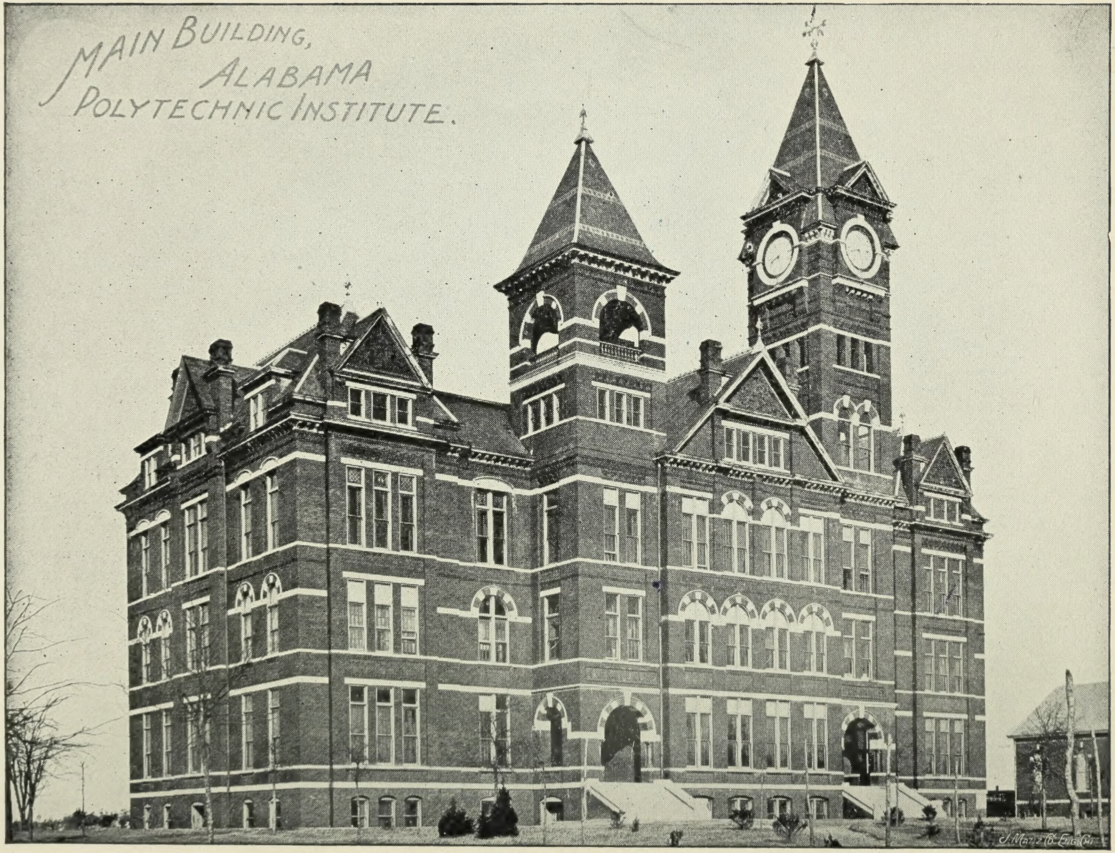
MAIN BUILDING,
ALABAMA
POLYTECHNIC INSTITUTE.
J. Manz & Co. Eng. Chi.

CATALOGUE

OF THE

Alabama Polytechnic Institute.

STATE COLLEGE

FOR THE

BENEFIT OF AGRICULTURE AND THE MECHANIC ARTS.

AUBURN, ALABAMA

1901.

UNIVERSITY OF ILLINO
PRESIDENT'S OFFICE

MONTGOMERY, ALABAMA
THE BROWN PRINTING COMPANY PRINTERS AND BINDERS
1901

TRUSTEES.

His Excellency, WM. J. SAMFORD, President	*Ex-Officio.*
JNO. W. ABERCROMBIE, Superintendent of Education	*Ex-Officio.*

TERM EXPIRES, 1907.

JONATHAN HARALSON,	Selma, Ala.
THOMAS WILLIAMS,	Wetumpka, Ala.
J. A. BILBRO,	Gadsden, Ala.

TERM EXPIRES, 1905.

J. M. CARMICHAEL,	Ozark, Ala.
W. K. TERRY,	Birmingham, Ala.
T. H. FRAZER,	Mobile, Ala.
I. F. PURSER,	Opelika, Ala.

TERM EXPIRES, 1903.

R. F. LIGON, JR	Montgomery, Ala.
TANCRED BETTS,	Huntsville, Ala.
W. C. WHITAKER,	Tuscaloosa, Ala.

E. T. GLENN, Treasurer. J. H. DRAKE, M. D., Surgeon.
R. W. BURTON, Secretary.

FACULTY AND OFFICERS.

WM. LEROY BROUN, M. A., LL. D.,
President.

OTIS DAVID SMITH, M. A., LL. D.,
Professor of Mathematics.

PATRICK HUGHES MELL, M. E., PH. D.,
Professor of Botany and Geology.

JAMES HENRY LANE, C. E., M. A., PH. D., LL. D.,
Professor of Civil Engineering and Drawing.

CHARLES COLEMAN THACH, M. A.,
Professor of English and Political Economy.

GEORGE PETRIE, M. A., PH. D.,
Professor of History and Latin.

*BENNETT BATTLE ROSS, M. SC.,
Professor of General and Agricultural Chemistry and State Chemist.

JOHN JENKINS WILMORE, M. E.,
Professor of Mechanical Engineering and Director of Laboratory.

CHARLES ALLEN CARY, B. SC., D. V. M.,
Professor of Physiology and Veterinary Science.

EMERSON R. MILLER, PHAR. M., M. SC.,
Professor of Pharmacy.

JOHN FREDERICK DUGGAR, M. SC.,
Professor of Agriculture.

FRANK SUMNER EARLE,
Professor of Biology and Horticulture.

ARTHUR ST. CHARLES DUNSTAN, M. E., C. E.,
Professor of Electrical Engineering and Physics.

JOHN EDWARD WIATT, M. A.,
Professor of Modern Languages.

BOLLING HALL CRENSHAW, M. E.,
Associate Professor of Mechanical Engineering and Mathematics.

BENJAMIN SWEAT PATRICK, E. & M. E.,
Commandant and Acting Professor of Military Science.

PAUL INGOLD MURRILL, M. SC., PH. D.,
Acting Professor of General and Agricultural Chemistry.

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*Absent on leave, at University in Germany.

HENRY HEARST KYSER, E. & M. E.,
Assistant Professor of Physics and Electrical Engineering.

MICHAEL THOMAS FULLAN, M. Sc.,
Assistant Professor of Mechanic Arts.

CLIFFORD LeROY HARE, M. Sc.,
Instructor Chemical Laboratory.

ROBERT JEFFERSON TRAMMELL, C. E.,
Instructor in Mechanic Arts.

WILLIAM OSCAR SCROGGS, M. Sc.,
Assistant Librarian and Assistant in English.

(a) WILLIAM WELCH HILL, E. & M. E.,
Assistant in Mechanic Arts.

HARRY STREETY HOUGHTON, B. Sc.,
Assistant in Chemistry.

JAMES RICHARD RUTLAND, B. Sc.,
Assistant in Sub-Freshman English and Mathematics.

JOHN WILLIAM JEPSON, B. Sc.,
Assistant in Electrical Engineering.

CHARLES LEWIS HAROLD, B. Sc.,
Assistant in English.

WILLIAM CHRISTOPHER MARTIN, B. Sc.,
Assistant in Civil Engineering and Drawing.

(b) EDWARD ZELLARS HEARD, B. Sc.,
Assistant in Mechanic Arts.

CHARLES WELLINGTON NIXON, B. Sc.,
Assistant in Chemistry.

(c) ELLIS MADISON DUNCAN, B. Sc.,
Assistant in Veterinary Science.

JESSE WRIGHT BOYD, B Sc.,
Assistant in Latin and History.

ENOCH MARVIN MASON, B. Sc.,
Assistant in Biology and Pharmacy.

ARTHUR FLOURNOY JACKSON,
Student Assistant in charge of Gymnasium.

(a) Appointed March 6th, vice T. H. McAdory resigned.
(b) Appointed January 1st, vice H P. Powell, resigned.
(c) Appointed March 1st, vice E. A. Miller, resigned.

COMMITTEES OF THE FACULTY.

COMMITTEE ON DISCIPLINE,
Professors Smith, Thach, Mell.

COMMITTEE ON ENTRANCE EXAMINATION,
Professors Smith, Thach, Petrie.

COMMITTEE ON EXAMINATION OF SPECIAL STUDENTS.
Professors Wilmore, Dunstan, Miller.

COMMITTEE ON PUBLIC LECTURES,
Professors Petrie, Dunstan, Kyser.

COMMITTEE ON LIBRARY,
Professors Thach, Petrie, Wiatt.

COMMITTEE ON ATHLETICS,
Professors Ross, Mell, Dunstan, Kyser, Petrie.

SUPERINTENDENT OF GROUNDS AND BUILDINGS,
Professor Wilmore.

CURATOR OF MUSEUM,
Professor Mell.

SECRETARY OF ALUMNI RECORD,
Professor Crenshaw.

AGRICULTURAL EXPERIMENT STATION.

COMMITTEE OF TRUSTEES ON EXPERIMENT STATION.

Thos. Williams	Wetumpka, Ala.
Jonathan Haralson	Selma, Ala.

STATION COUNCIL.

Wm. LeRoy Broun	President.
P. H. Mell	Director and Botanist.
B. B. Ross	Chemist.
C. A. Cary, D. V. M.	Veterinarian.
J. F. Duggar	Agriculturist.
F. S. Earle,	Biologist and Horticulturist.
J. T. Anderson	Associate Chemist.

ASSISTANTS.

C. L. Hare	First Assistant Chemist.
*C. W. Nixon	Second Assistant Chemist.
H. S. Houghton	Third Assistant Chemist.
T. U. Culver	Superintendent of Farm.
R. W. Clark	Assistant Agriculturist.
C. F. Austin	Assistant Horticulturist.
C. F. Boyd	Assistant to Director.

OFFICER IN CHARGE OF FARMERS' INSTITUTES.

Dr. C. A. Cary.

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* Appointed Feb. 1st, vice J. Q. Burton, resigned.

The Institute is a distinctive school of Science and its applications; being also the State College for the benefit of Agriculture and the Mechanic Arts established by the State in 1872, by endowing it with the land-grant appropriation made by the U. S. Congress in 1862.

The leading object of the Institute, in conformity with the act of Congress and the acts of the State Legislature, is to teach the principles and applications of science.

In its course of instruction it gives prominence to the sciences and their applications, especially to those that relate to agriculture and the mechanic arts; and at the same time the discipline and liberal education obtained by the study of language and other sciences are not neglected.

All students are required to study the English language. The Latin, French and German languages are also taught, and opportunity for their study is offered to students in any course.

The special and technical instruction given is thus based on a sound, general education.

In its different courses of education, work of great value to the youth of the State is accomplished by fitting them by a thorough science-discipline, in which manual training in the lower classes is made a prominent feature for the successful and honorable performance of the responsible duties of life.

While every attention is given to the mental discipline of the students in endeavoring to train them to habits of accurate scientific thought, and thus to qualify them for the duties of life, their moral and Christian training will always constitute the prominent care and thought of the Faculty. The Institute thus endeavors to educate as well as instruct, to form character as well as give information of value.

LABORATORIES AND FACILITIES FOR INSTRUCTION.

The Institute now possesses facilities for giving laboratory instruction in applied science in the following departments:

I—IN AGRICULTURE AND HORTICULTURE.

The farm contains 304 acres, and is supplied with illustrative specimens of stock of select varieties.

The agricultural experiment station, established in connection with the College, where experiments and scientific investigations relating to agriculture are daily made, affords unusual opportunities to students to become familiar with agriculture, its defects and remedies.

The students of agriculture accompany the professor in the field, garden, conservatory, stock-yard, etc., where lectures are delivered in the presence of the objects discussed, and during the year exercises in practical agriculture of an educational character are given the students who entered upon this course of study.

II—IN MECHANIC ARTS.

The laboratory of mechanic arts is used as an auxiliary in industrial education, and as a school of manual training in the arts that constitute the foundation of various industrial pursuits. The work performed by the students is instructive in character, as in any other laboratory, and the classes are taught in sections by a series of graded lessons under the supervision of the professor. In the lower classes of the Institute each student enters this school and is assigned three exercises a week, each exercise being two hours long.

The object of this laboratory is not to teach a trade, but to educate, to discipline and train the eye and the hand, as well as the mind, and thus by associating manual and mental training, to educate thoroughly the student for the duties of life, whatever may be his vocation. There is no attempt to teach students special skill in constructing articles of commercial value, but all the exercises are systematically arranged and designed for purposes of education.

The wood department is located in a commodious hall, 90x50 feet, and is provided with a twenty-five horse-power Corliss engine, a planer, circular saw, band-saw, two scroll saws, a buzz planer, a pattern maker's lathe, twenty-four stands, each with a lathe and a full set of tools, and thirty benches for carpenter work with the tools requisite for construction.

A brick building, 52x87 feet, with two rooms, has been constructed especially for instruction in working iron.

One room is equipped with twenty-four forges and tools required for a forge department, and the other with a Colliau cupola furnace, a core oven, a brass furnace, molding benches, foundry crane constructed by students, and special tools for use in a foundry.

The forge and foundry rooms are furnished with a fan and exhauster, supplied with power from an engine, constructed by the students in mechanic arts.

The machine department occupies a brick building, 30x50 feet, and is equipped with eleven engine lathes, one speed lathe, one 20-inch drill press, one 10-inch sensitive drill, one 16-inch shaper, one 5-foot planer, one universal milling machine, a corundum tool grinder, a small emery grinder, a No. 1 Brown & Sharpe universal grinding machine, and a power hack saw.

The chipping and filing department is arranged with benches, vises and tools for twelve students.

The tool room is well supplied with special tools for use in instruction, including a machine for grinding twist drills. The rooms are lighted with electricity whenever necessary.

III—IN PRACTICAL CHEMISTRY.

The chemical laboratory is supplied with modern apparatus, and in its equipment affords excellent facilities for instruction in practical chemistry and for investigation.

The investigations that are undertaken in this laboratory by scientific experts, in connection with the work of the agricultural experiment station, are of especial value to advanced students, and afford them unusual opportunities to learn the methods of scientific research.

The building contains a large general laboratory that accommodates sixty students, a special laboratory for Seniors that will accommodate thirty students, a lecture room with a capacity for one hundred seats, and nine other rooms, all appropriated to instruction and research in chemistry.

IV—IN ELECTRICAL ENGINEERING.

The electrical laboratory is well supplied with modern appliances for instruction in electrical engineering. It occupies three large rooms in the basement and is equipped with many fine instruments of precision.

In addition to resistance boxes, bridges, condensers, galvanometers, dynamometers, wattmeters, photometers, and other laboratory instruments, the department is supplied with representatives of the best types of commercial electrical instruments from foreign and domestic makers.

The laboratory is also equipped with apparatus for making break-down tests of insulating materials, up to 30,000 volts, also with spectroscopic apparatus for testing the quality of arc light carbons.

The dynamos occupy a separate building and are operated by a twenty-five horse power Atlas engine, and a thirty-five horse power Westinghouse engine. In this building are installed the following dynamos:

Edison compound 12 Kilo-watt generator, Thomson-Houston 150 light 110 volt dynamo, Weston 150 volt 25 ampere generator, Crocker-Wheeler one horse power motor, Ideal 3 phase alternator, Brush 6 arc light dynamo with lamps, two Baxter street car motors, 20 horse power each (so connected as to be used as direct or alternating current motors or generators), one 5 horse power three phase motor, one General Electric 20 horse power motor, one 40 light shunt dynamo, one Edison 3 Kilo-watt generator, one Stanley induction motor with condensers, two bi-phase induction motors (built by students), one 9 light Thomson-Houston arc machine, two phase alternator and 500 volt 20 ampere generator, made by students. There is also in connection with this department at the experiment station, a ten horse power motor, made by students, which is operated by the 500 volt generator in the dynamo room.

V—IN PHYSICS.

The physical laboratory occupies two rooms, one of these being permanently darkened for experimental work in light.

It is equipped with numerous standard instruments of precision, such as verniers, micrometers, cathetometers, a horizontal comparator, a Kater's reversion pendulum, balances, etc., and a quantity of minor apparatus.

Recently there has been added a concave grating spectrograph, a large induction coil of 12 inch spark, and other apparatus of value.

VI—IN MINERALOGY.

This laboratory occupies a convenient room in the basement, and is provided with tables and appliances to accommodate thirty students, with an excellent collection of minerals.

VII—IN BOTANY.

In the work of the agricultural experiment station there is a botanical garden under the charge of the professor of botany; investigations in botany are given special attention, and opportunities are offered advanced students for practical work in a laboratory especially fitted with microscopes, tables, a dark room for photographic work, and appliances needed for instruction and research. This department is provided with Auzoux's clastic models of seeds and flowers for teaching botany.

VIII.—IN BIOLOGY.

The laboratory in this department adjoins the lecture room of the professor, and is furnished with tables, excellent microscopes and appliances for investigation. Each student of the class works under the supervision of the professor.

IX—IN ENGINEERING AND SURVEYING.

The necessary apparatus for field work, including transits, levels, plane table, models of bridges, etc., is provided for the use of the students, and the customary exercises in the field are given.

X—IN DRAWING.

All students in the lower classes are required to take drawing, a study which tends to discipline the mind, as well as to train the eye and hand to accuracy of observation and execution. A large, well-lighted drawing room, which will accomodate fifty students, is provided with tables, lock-boxes, etc.

XI—IN MECHANICAL ENGINEERING.

The mechanical course has been extended to include experimental work in mechanical engineering.

The apparatus available for this instruction is as follows: A 45-horse power Imperial Cross compound engine, especially arranged for experimental work, supplied with Wheeler surface condenser and Deane air pump and circulating pump, a 25-horse power Harris-Corliss engine, a 35 horse power Westinghouse engine, two 9 horse power engines constructed by students, the boilers belonging to the regular power plant, a Deane duplex steam pump, a 4-horse power gasoline engine, an Ericsson hot air engine, a New York air pump, a Westinghouse air pump, four steam engine indicators, a separating calorimeter, thermometers, a pyrometer, scales, a standard steam gauge with apparatus for testing steam gauges, a Crosby dead weight tester with weights for correcting the standard gauge, a 35,000-pound testing machine, a Henning micrometer extensometer, and a Carpenter calorimeter with the necessary auxiliary apparatus for determining the heating value of different kinds of coal.

This work is now carried on in the lower story of the annex to the chemical laboratory. This room is 30x60 feet in size and was specially designed and fitted up for this purpose. A three-inch steam main has been laid from the boiler house, thus securing a steam supply in the building for all work requiring it. The work is thoroughly practical, and it is desired to extend it as rapidly as the funds available for the purchase of apparatus will allow.

XII—IN PHYSIOLOGY AND VETERINARY SCIENCE.

There has been constructed for the veterinary department a new and separate two-story building with nine rooms. It is provided with lecture room, office, working and operating rooms for clinical practice, and museum with skeletons of the domestic animals for instruction. Free clinics are given every Saturday for the benefit of the students in veterinary science.

There is a separate dissecting room constructed, with cement floor and north roof light especially for this department. This Laboratory is used by the professor and students each afternoon for three months.

XIII—IN PHARMACY.

The laboratory of this department occupies the second floor of the annex to chemical laboratory, and is provided with a sufficient supply of drugs and apparatus necessary for instruction in pharmaceutical preparations.

The students work in the laboratory with the professor, from five to eight hours, six days in the week.

The facilities are increased as means are available.

MILITARY TACTICS.

Instruction in this department is given in conformity with the act of Congress. Students receive the benefit of regular military drill, and in addition the military system is used as a means of enforcing discipline and securing good order, promptness and regularity in the performance of academic duties.

This department is supplied with cadet rifles and accoutrements for the corps.

COLLEGE BUILDINGS.

The frontispiece is a representation of the main College building. It is 160 x 71 feet and contains forty-five rooms. This building is not used for dormitories for students, but is appropriated to purposes of instruction and investigation.

It contains the lecture rooms and offices of the professors, laboratories, library, museum, armory, etc.

LANGDON HALL.

This is a two-story building, 90 x 50 feet. The second story is the audience hall, used for commencement and other public occasions.

The first story is appropriated to the laboratory of mechanic arts.

THE CHEMICAL LABORATORY.

As shown on the opposite page this is a two story structure, 40 by 60 feet, with a rear projection, 35 by 60 feet, of one-story and basement, and contains eight rooms. The exterior is of pressed brick, with cut stone trimmings and terra cotta ornamentation.

In the basement are ample accommodations for assaying and storage.

The main laboratory will accommodate sixty students, and contains improved working tables, with water, gas and every necessary appliance for chemical work.

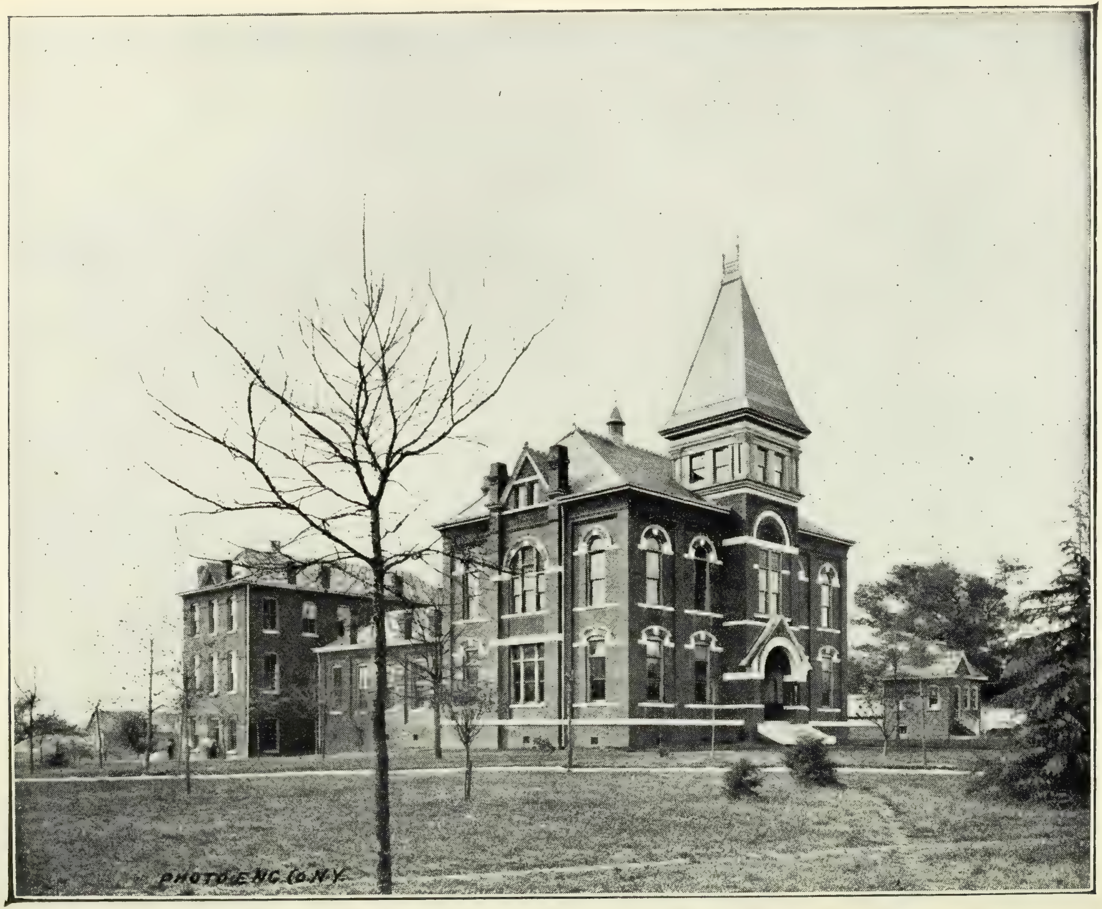
The laboratory for advanced work in chemistry will accommodate thirty students and is equipped in the same manner. Adjoining this are two rooms which are used respectively as a balance room, and a room for work with spectroscope, polariscope, etc.

The second story contains a lecture room with seats and tablets for eighty students. Around the lecture room are cases containing crude and manufactured products, illustrating agricultural and mechanical chemistry, prominent subjects taught in the institution.

ANNEX TO CHEMICAL LABORATORY.

This is a three-story brick building, containing rooms for pharmacy, mechanical engineering, and drawing.

The Chemical Laboratory for the Agricultural Experiment Station occupies a building 60 by 26 feet and is appropriated exclusively for chemical investigation and research, and not for instruction.



CHEMICAL LABORATORY.

HONOR ROLL FOR CONDUCT, IN 1900.

The following cadets having received no demerits during the year, their names are placed upon the honor roll for good conduct:

SUB-FRESHMAN CLASS.

Haynie, C. D.
Jones, A. D.
Matthews, J. V.
Roberts, R. H.
Rutledge, C. P.
Stewart, B. M.
Williamson, G. T.
Sullivan, H. J.

SPECIAL AND IRREGULAR STUDENTS.

Brannon, P. A.
Crumpler, L. H.
Cameron, W. J.
Conner, H. H.
Haigler, W. H.
Marks, G. M.
Rennie, A. K.
Reid, H. V.
Sargent, H. O.
Sellers, W. A.
Stickle, H. S.

FRESHMAN CLASS.

Allen, G. W.
Bize, M. L.
Bruister, W. J.
Chipley, D.
Davis, H. E.
Davis, W. W.
Goldthwaite, C. B.
Halsey, W. L.
Hawkins, H. C.
Hill, G. B.
Horn, A. G.
Hunt, F. E.
Jordan, I. L.
Kauffman, R.
Knight, W. J.
Matson, T. H.
Maberry, E. L.
McLain, A. D.
Mitchell, J. H.
Preuit, G. N.
Rhodes, R. G.
Thornton, W. L.
Walker, I. W.
Yonge, H. M.
Moseley, W. F.

SOPHOMORE CLASS.

Askew, W. M.
Dawson, R. G.
Ellis, M.
Hamilton, W. B.
Houston, F. J.
Johnson, C. J.
Kyser, J. A.
Swanson, J. G.
Snedecor, G. W.
Wallace, C. N.
Webb, J. O.
Willis, W. D.
Yonge, J. E. D.

JUNIOR CLASS.

Arnold, R. T.
Bivings, F. C.
Bragg, T.
Eagar, W. H.
Fitch, H. L.
Felton, L. M.
Foy, J. D.
Goggans, J. O.
Haley, P. S.
Jackson, A. F.
Kahn, M. D.
Kelly, E.
Killebrew, E. S.
Letcher, J. T.
McCrary, W. D.
McGehee, W. B.
Meriwether, B. B.
Parker, D. J.
Smith, H. M.
Turpin, M. C.
Werner, H. E.
Williams, J. C.

SENIOR CLASS.

Ashcraft, F.
Beeson, M. A.
Boyd, G. F.
Boyd, J. W.
Brooks, M. M.
Bukofzer, E.
Culver, A. N.
Dowdell, W. C.
Duncan, E. M.
Duncan, L. N.
Flowers, J. J.
Hall, H. Y.
Hall, R. B.
Heard, E. Z.
Illges, J. P.
Jepson, J. W.
Kahn, M. F.
Kelley, W. E.
Martin, W. C.
Maples, J.
Mason, E. M.
McGehee, J. H.
Miller, E. A.
Nixon, C. W.
Osburn, W. F.
Powell, H. P.
Rutland, J. R.
Rutledge, W. S.
Shuff, J. W.

GRADUATES IN 1900.

CLASS OF 1900.

HONOR GRADUATES.

COURSE IN ELECTRICAL AND MECHANICAL ENGINEERING.

John William Jepson	South Carolina

COURSE IN CIVIL ENGINEERING.

William Christopher Martin	Barbour

GENERAL COURSE.

Charles Lewis Harold	Escambia

COURSE IN PHARMACY.

Enoch Marvin Mason	Lee

DEGREES.

BACHELOR OF SCIENCE.

Frank Hunter Anderson	Bullock
William Lawrence Anderson	Montgomery
Fletcher Ashcraft	Lauderdale
Malcolm Alfred Beeson	Etowah
John Samuel Black	Lee
Guy French Boyd	Lee
Jesse Wright Boyd	Lee
Millard Morse Brooks	Escambia
Edwin Bukofzer	Tennessee
Rufus White Butler	Lee
Judson Lamar Burke	Lee
Andrew Crozier Cameron	Jefferson
Sallie McGehee Clark	Montgomery
Asbury Nicholson Culver	Lee
Emma Beall Culver	Lee
William Crawford Dowdell	Lee
Ellis Madison Duncan	Franklin
Luther Noble Duncan	Franklin
Rutherford Sylvanus Finch	Montgomery
John Jefferson Flowers	Butler
Erle Humphreys Foy	Barbour
Bertha Mae Grout	Lee

Roland B Hall	Georgia
Harry Young Hall	Jefferson
Charles Lewis Harold	Escambia
Edward Zellars Heard	Lee
Mabel Heard	Lee
Mary Katherine Hollifield	Lee
George Martin Illges	Montgomery
John William Jepson	South Carolina
Walter Eldrade Johnson	Madison
Moses Frank Kahn	Lee
Wilbur Edrald Kelley	Jefferson
John Maples	Russell
William Christopher Martin	Barbour
Enoch Marvin Mason	Lee
James Hardie McGehee	Montgomery
Graham Edwin Merchant	Lee
Edward Andrew Miller	Marshall
William Livingston Neill	Jefferson
Charles Wellington Nixon	Tennessee
William Forney Osburn	Lee
Hiram Perry Powell	Georgia
Fleming James Rigney	Madison
James Richard Rutland	Chambers
William Stowe Rutledge	Lee
Frederick Blount Shepard	Mobile
Mary Robbins Sampey	Conecuh
John Winfred Shuff	Talladega
Joseph Manning Steiner	Butler
Moses Conrad Wright	Macon

MASTER OF SCIENCE.

Robert Higgins Adams	Pike
Bailey Edgar Brown	Morgan
Walter Eldrade Johnson	Madison
Kate Meade Lane	Lee
William Oscar Scroggs	Georgia

CIVIL ENGINEERING.

Arthur Henry Feagin	Barbour

ELECTRICAL AND MECHANICAL ENGINEER.

Thomas Hennington McAdory	Jefferson
Isham Fennell McDonnell	Madison

DISTINGUISHED STUDENTS.

Students who receive a grade above 90 in three studies in the freshman class, in four in the Sophomore, in five in the Junior, and in six in the Senior, are disguished for excellence in scholarship, and are awarded

HONOR CERTIFICATES.

The following students received honor certificates in 1900:

SENIOR CLASS.

Malcolm Alfred Beeson	Etowah
John Samuel Black	Lee
Jesse Wright Boyd	Lee
Edwin Bukofzer	Tennessee
Sallie McGehee Clark	Montgomery
Emma Beall Culver	Lee
William Crawford Dowdell	Lee
Luther Noble Duncan	Franklin
Bertha Mae Grout	Lee
Roland B. Hall	Georgia
Harry Young Hall	Jefferson
Charles Lewis Harold	Escambia
Mary Katherine Hollifield	Lee
John William Jepson	South Carolina
Moses Frank Kahn	Lee
William Christopher Martin	Barbour
Enoch Marvin Mason	Lee
Edward Andrew Miller	Marshall
Charles Wellington Nixon	Tennessee
William Forney Osburn	Lee
Fleming James Rigney	Madison
James Richard Rutland	Chambers
Mary Robbins Sampey	Conecuh

HONOR STUDENTS IN THE JUNIOR CLASS.

COURSE IN CHEMISTRY AND AGRICULTURE.

Thomas Bragg	Lee

COURSE IN ELECTRICAL AND MECHANICAL ENGINEERING.

Eugene Flynn Enslen	Jefferson

CIVIL ENGINEERING.

Paul Shields Haley	Walker

GENERAL COURSE.

John Talbert Letcher	Macon

COURSE IN PHARMACY.

William Boyd McGehee	Montgomery

JUNIOR CLASS.

Robertson Tanner Arnold	Florida
Herschel Winston Bass	St. Clair
Thomas Bragg	Lee
William Hamilton Eagar	Winston
Eugene Flynn Enslen	Jefferson
John Drewry Foy	Barbour
Paul Shields Haley	Walker
Arthur Flournoy Jackson	Georgia
William Boyd McGehee	Montgomery
Emmett Stephens Killebrew	Dale
John Talbert Letcher	Macon
Karl Edward Lindrose	Mississippi
Isaac Lenoir Moore	Lee
Dorsey Julian Parker	Escambia
Shepherd Harrison Roberts	Montgomery
Louis Sternfeld	Montgomery
Henry Edward Werner	Texas

SOPHOMORE CLASS.

William Warren Askew	Georgia
William Cruse Coles	Marshall
Jesse Duncan Elliott	Minnesota
Marvin Ellis	Morgan
James Browder Garber	Hale
Morris Ketchum	New York
James Allen Kyser	Dallas
Martin James Lide	Dallas

Richard Blount Shepard	Mobile
George Waddell Snedecor	Jefferson
John Griffin Swanson	Macon
Walker Dorr Willis	Florida
John Eayres Davis Yonge	Florida.

FRESHMAN CLASS.

Dudley Chipley	Florida
Earl Cline	Jefferson
Sidney Cornell	Jefferson
Howard Ellis Davis	Mobile
William Watson Davis	Mobile
Thomas Joseph Dowdell	Montgomery
William Lanier Halsey	Madison
Frank Edward Hunt	Jefferson
Roy Kauffman	Mobile
Walter Joseph Knight	Mobile
Thomas Hatcher Matson	Talladega
John Harris Mitchell	Georgia
Gregg Newton Preuit	Lawrence
Russell Bates Preuit	Lawrence
William Watson Rutland	Chambers
William Lawson Thornton	Talladega
Ivy Whitson Walker	Colbert
Henry Mathews Yonge	Florida

CATALOGUE OF STUDENTS.

FOR THE SESSION OF 1900-1901.

GRADUATE STUDENTS.

[*Residence in Alabama when State is not given.*]

NAME.	RESIDENCE.
Guy French Boyd	Lee
Jesse Wright Boyd	Lee
Mattie Lucile Burton	Lee
Toccoa Cozart	Lee
Emma Beall Culver	Lee
Ellis Madison Duncan	Franklin
Charles Lewis Harold	Escambia
Edward Zellars Heard	Lee
Mabel Heard	Lee
John William Jepson	South Carolina
William Christopher Martin	Barbour
Enoch Marvin Mason	Lee
Edward Andrew Miller	Marshall
James Lewis Molder	Chambers
Charles Wellington Nixon	Tennessee
Hiram Perry Powell	Georgia
James Richard Rutland	Chambers

UNDERGRADUATE STUDENTS.

SENIOR CLASS.

Robertson Tanner Arnold	Florida
Herschel Winston Bass	St. Clair
Idaline Bell	Lee
Frank Carlisle Bivings	Georgia
Kenneth Bradford	Montgomery
Thomas Bragg	Lee

Samuel Hamner Browne	Tuscaloosa
Salmon Holmes Burns	Lee
David James Castleman	Hale
Herschel Henry Conner	Macon
William Hamilton Eagar	Winston
Eugene Flynn Enslen	Jefferson
LeRoy Madison Felton	South Carolina
John Drewry Foy	Barbour
James Olney Goggans	Tallapoosa
Walter Lee Greene	Lee
William Hope Haigler	Montgomery
Paul Shields Haley	Walker
Alexander Cameron Hannon	Montgomery
Michael Smith Harvey	Lee
Charles Henry Haynes	Bullock
Daniel Hagood Haynes	Dallas
James Kelly Haynie	Montgomery
Arber Samuel Hertz	Georgia
Robert Holland Hood	Jefferson
Arthur Flournoy Jackson	Georgia
James Baxter Jackson	Lee
Jefferson Franklin Jones	Sumter
Myron Daniel Kahn	Lee
Claude Kauffman	Mobile
Emmett Stephens Killebrew	Dale
William Reid Lancaster	Lee
John Talbert Letcher	Macon
Karl Edward Lindrose	Mississippi
Walter Deems McCrary	Lee
William Boyd McGehee	Montgomery
Benjamin Baldwin Meriwether	Montgomery
Abram Hill Mitchell	Lee
Isaac Lenoir Moore	Lee
Merrill Hastings Moore	Montgomery
William Louis Noll	Tennessee

Dorsey Julian Parker	Escambia
James Cochran Phelps	Lee
James Blackmon Powell	Bullock
Shepherd Harrison Roberts	Montgomery
Harvey Owen Sargent	Franklin
Oscar Menderson Schloss	Barbour
Lyman Hall Shaw	Sumter
Henry Alexander Skeggs	Morgan
John Hunt Skeggs	Morgan
Matthew Scott Sloan	Mobile
Holland McTyeire Smith	Lee
Louis Sternfeld	Montgomery
Godfrey Rhodes Thomas	Sumter
Manly Curry Turpin	Virginia
Henry Edward Werner	Texas
Leonidas Wharton	Cherokee
Gaius Whitfield	Marengo
Jere Crawford Williams	Lee
John Rutledge Williams	Jefferson
Edward Houston Wills	Lee

JUNIOR CLASS.

Oliver Hannibal Alford	Marshall
William Warren Askew	Georgia
Frederick Cornelius Atkinson	Dale
Charles Homer Billingsley	Elmore
Edward Lambeth Carroll	Florida
William Cruse Coles	Marshall
Clyde Allen Collins	Hale
Alpheus Mallette Davis	Florida
Robert Geoghegan Dawson	Montgomery
Jesse Duncan Elliott	Minnesota
Marvin Ellis	Morgan
James Douglas Farley	Lee

Clarence Eugene Feagin	Bullock
James Browder Garber	Hale
Arthur Rodfer Gray	Florida
Jeremiah Warren Gwin	Jefferson
William Houston Gwin	Jefferson
William Bulger Hamilton	Elmore
Clifton Duane Haynie	Lee
William Tillman Heard	Lee
Oscar Lynn Henry	Marshall
Dallas Tabor Herndon	Henry
Franklin Jerome Houston	Jefferson
Collins James Johnson	Missouri
Albert Sidney Johnson	Colbert
Morris Ketchum	New York
Howard Malcolm Kilpatrick	Georgia
James Allen Kyser	Dallas
Martin James Lide	Dallas
Gaston Joel Lipscomb	Marengo
Earle Irwin McBryde	Wilcox
Thomas Michael McCarroll	Florida
Francis Schroeder Montgomery	Etowah
Henry Bigham Park	Georgia
Douglass Welles Peabody	Mobile
Edgar Johnson Pierce	Bullock
Daniel Syers Robertson	Chambers
Richard Blount Shepard	Mobile
Julian Cassius Smith	Macon.
George Waddell Snedecor	Jefferson
Enrico Alfonso Washington	Georgia
Clifford Noble Wallace	Elmore
John Osceola Webb	Tallapoosa
Walker Dorr Willis	Florida
Forney Renfro Yarbrough	Georgia
John Eayres Davis Yonge	Florida

SOPHOMORE CLASS.

George Whitfield Allen	Jefferson
Albert Miner Avery	Florida
James Victor Blackwell	Calhoun
Edward Jefferson Bruister	Choctaw
Rush Pearson Burke	Montgomery
Thomas Arthur Caddell	Etowah
William Julius James Chase	Georgia
Dudley Chipley	Florida
William Hudmon Cooper	Lee
Sidney Cornell	Jefferson
Walter Thomas Credille	Georgia
Charles Sanders Culver	Lee
Howard Ellis Davis	Mobile
William Watson Davis	Mobile
William Wert Dinsmore	Morgan
Thomas Joseph Dowdell	Montgomery
Isaac Ball Feagin	Bullock
†William Eugene Finch	Florida
George Bridges Foss	Etowah
Charles Belshaw Goldthwaite	Pike
William Lanier Halsey	Madison
Millard Harwell	Lee
Earnest Cecil Haynie	Lee
Bell George Hazard	Calhoun
Henry Hiden	Jefferson
George Bloise Hill	Talladega
William Hill	Etowah
Alexander Grice Horn	Sumter
John David Hudson	Lee
James Daughtry Hudson	Georgia
Frank Edward Hunt	Jefferson
†Ira LaFayette Jordan	Bullock

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†Not in full standing.

William George Karnathan	Choctaw
Roy Kauffman	Mobile
Walter Joseph Knight	Mobile
John Fulton Lanier	Madison
Carl Lay	Etowah
George Duncan Lesesne	Mobile
Percy McLean Marshall	Georgia
Winfield Scott Martin	Mississippi
John Van Valkenburg Matthews	Madison
Thomas Hatcher Matson	Talladega
†Ernest Lynnwood Mayberry	Macon
Allen Davis McLain	Lee
Robert Peyton Mims	Jefferson
John Harris Mitchell	Georgia
William Pitman Moon	Coosa
Thomas William Morgan	Jefferson
James Porter Paterson	Montgomery
Christopher Henderson Pinson	Sumter
†Albert Wellman Pratt	Madison
David Philips Pruett	Bullock
Wallace Powers Pruitt	Lowndes
George Daniel Randle	Jefferson
James Henry Randle	Bullock
John Patrick Rembert	Mississippi
Paul Rigney	Madison
William Richard Rison	Madison
†Roy Gustavus Rhodes	Marengo
Tod Hewitt Roberts	Jefferson
William Watson Rutland	Chambers
Clifford Philip Rutledge	Lee
Hans Schmidt	Jefferson
Edmund Rhett Taber	Montgomery
Edward Taylor	Marengo
Louis Earle Thornton	Florida

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† Not in full standing.

William Lawson Thornton	Talladega
James Feagin Tompkins	Lee
Filo Harris Turner	Florida
William Micou Turnley	Elmore
Ivy Whitson Walker	Colbert
Joseph Dorrah Walker	Jefferson
Walter Harry Wiley	Pike
Ira Dateman Williams	Elmore
Henry Mathews Yonge	Florida

FRESHMAN CLASS.

†William Nevin Adkins	Georgia
Henry Alexander Allison	Sumter
William Leroy Alston	South Carolina
Frank Gordon Bell	Lowndes
†William Henry Bell	Lowndes
†Nathan Arnold Beringer	Barbour
Irby Boyd	Pike
Jefferson Edward Brown	Pike
Borden Montgomery Campbell	Eutaw
Julian Sidney Chambers	Montgomery
Alan Armstead Chester	New York
James Henderson Childs	Georgia
William Lawrence Dumas	Mobile
Earlie Roy Emrick	Jefferson
Frank Trimble Evans	Georgia
Clarence Evelyne Field	Jefferson
Joseph Cochrane Franklin	Bullock
Frederick Emanuel Geibel	Montgomery
Walter Summerville Going	Jefferson
James Buchanan Green	Crenshaw
Elmus Knowles Hanby	Jefferson
Walter Leonidas Harwell	Lee
Guy David Hawkins	Jefferson

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† Not in full standing.

†Clay Irby Hudson	Lee
Robert Walter Huey	Jefferson
Charles Jefferson Jackson	Montgomery
Max Gordon Jepson	South Carolina
Arthur Dean Jones	Pike
Allen Green Jones	Dallas
Chauncey Smith Joseph	Montgomery
Thomas Jefferson Killebrew	Dale
Edward Philip Lacey	Jefferson
Tracy Lay	Etowah
Francis Lyon	Lowndes
Thomas VanRensaler Matthews	Calhoun
Isaac Sadler McAdory	Jefferson
John William McConnell	Jefferson
John McDuffie	Monroe
Henry McDonnell	Madison
Thomas Pettus McElderry	Talladega
William Monroe Meredith	Green
Edward Adolphus Miles	Mobile
Frederick Shealy Middleton	Chambers
Lee Penn Montgomery	Lee
Andrew Blair Nelson	Walker
Fenton Forest Newman	Talladega
Forney Renfro	Lee
Thomas Andrew Riley	Jefferson
Richard Hoskins Roberts	Sumter
James Lon Robinson	Jefferson
Charles McPherson Rogers	Sumter
Oscar Early Rutland	Lee
John Van Ryan	Madison
Joseph McMurray Seabrook	Talladega
James Emmet Seale	Sumter
Frederick Samuel Shepherd	Tennessee

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† Not in full standing.

William Martin Shepard	Mobile
Berner Leigh Shi	Georgia
Washington Irving Shi	Georgia
Solomon Kauffman Simon	Marengo
Philip Ware Smith	Chambers
†John Deal Steele	Greene
Paul Stewart	Jefferson
John Randolph St. John	Mobile
Henry Jefferson Sullivan	Washington
†Benjamin Walton Taylor	Jefferson
Albert Lee Thomas	Lee
John Walker Wakefield	Talladega
William Francis Ward	Lee
Thornton Albert Ward	Lee
Fletcher Peavy Whatley	Lee
George Traylor Williamson	Lee
John Mayer Wilson	Clark
William Mason Wilson	Etowah
John Washington Wood	Jefferson

SPECIAL AND IRREGULAR STUDENTS.

Abbreviations: Ph—Pharmacy; E. & M. E.—Electrical and Mechanical Engineering; C.—Chemistry; Ag.—Agriculture; C. E.—Civil Engineering; M. A.—Mechanic Arts.

NAME.		RESIDENCE.
Charles Pierce Anderson	PH	Montgomery
William Spaight Anderson		Jefferson.
Ralph Calloway Armstrong		Lee
Martin Vanburen Beason		Georgia
Arthur Bernard Beringer	PH	Barbour
Marshall Leonard Bize		Georgia
Johnson Wilson Black		Mobile
*Moffatt Grier Bonner		Wilcox
William Jones Bonner	E. & M. E.	Wilcox

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*Deceased.

† Not in full standing.

Wallace Edward Brewster		Georgia
Andrew Henry Buchanan	PH. & VET. S.	Montgomery
John Mangum Buchanan		Lee
Rufus White Butler	PH	Lee
Arthur Ernest Carter	PH	Shelby
William Hatchett Chandler		Montgomery
Willis Gaylord Clark	E. & M. E.	Mobile
Earl Cline		Jefferson
Joseph Henry Corrigan	M. A.	Florida
Lewis Henry Crumpler	PH	Talladega
Francis Roy Daniel		Mobile
George Parker Dexter		Jefferson
Wiley Frank Dorman		Chambers
Woodson Lee Ennis		Sumter
Martin Conner Folmar		Pike
Ingrahm Barron Foster	PH	Perry
Albert Edward Gilbert	PH	Clay
John Hunter Goddard	PH	Georgia
Alexander Hamilton Green		Florida
Edward Putney Guerrant	AG	Kentucky
Leslie Murphy Hand	PH	Sumter
James Coulson Harper	C. E.	Mississippi
William Bedwell Harrell	PH	Choctaw
Ethel Julia Harwell		Lee
Henry Clift Hawkins		Lee
Alvis Clift Hawkins		Lee
Alvis Perry Henderson		Limestone
William Jefferson Hearin		Mobile
Mollie Hal Hollifield		Lee
William Dana Hubbard		Dallas
Elbert Carter Jackson	PH	Pike
Mell Frazer Jackson	PH. & VET. S.	Lee
John Samford Jewett	PH	Florida
William Micou Jordan	PH	Elmore

Edward Kelly		Montgomery
Oscar Jennings Knox	PH	Lee
Lottie Everard Lane		Lee
Daniel Stacy Martin	E. & M. E.	Barbour
Robert Murdoch Martin		Barbour
Jean Llorca-Marty		Nicaragua
Oliveria Masvidal	M. A.	Cuba
Christian McDevitt		Pennsylvania
Herbert McLeod	PH	Pike
Allen Massillon McNeel	E. & M. E.	Montgomery
William Robert Middleton		Lowndes
Fern Wood Mitchell		Etowah
Martin Theophilus Moody	PH	Calhoun
James Crowder Moore	PH	Lee
Peter Preer Myhand	VET. S. & PH	Lee
Carlyle Nisbet	E. & M. 5	Georgia
Louis Milton Noll	PH	Tennessee
Sallie Fleming Ordway		Tennessee
William Freeman Owens	PH	Choctaw
William Burns Paterson	AG	Montgomery
Morris Pelham	E. & M. E.	Calhoun
Israel Pickens	PH	Hale
Bolling Reigns Powell	PH	Montgomery
Alston Keith Rennie	PH	Dallas
Henry Virgil Reid	PH	Barbour
Carl Robinson		Tallapoosa
Benjamin Riley Sawyer	PH	Calhoun
Robert Houston Scruggs	PH	Sumter
George Clement Sequeira	C. E.	Nicaragua
Robert Ware Sistrunk	PH	Elmore
Hunter Macon Smith		Jefferson
Brady Wilkinson Steele	PH	Autauga
Henry Sleeth Stickle	C. E.	Lauderdale
Roy Lee Thornton	PH	Bullock

George Baker Tyson		Montgomery
Guy Hanson Upchurch	PH	Pickens
Victor Vance		Jefferson
Luz Maria Washington		Georgia
Judson Franklin Webb	C. E.	Lee
Walter Rivers Whitman	M. A.	Lee
Annie Lizzie Wright		Lee

SUB-FRESHMAN.

Harry Robert Adams	Jefferson
Thomas Eaton Alexander	Marengo
†Robert Lehman Ashurst	Tallapoosa
Robert Trammell Bagby	Lee
Marvin Fitzpatrick Boykin	Lee
Thomas Quincy Bradford	Marengo
Thomas Cobb Bradford	Lee
Hubert Gillespie Brown	Pike
†George Washington Bryan	Crenshaw
James DeRasete Bryant	Wilcox
Andrew Duke Cameron	Macon
Lemuel Jacob Cobb	Cherokee
Lynn Lewis Conner	Macon
Benjamin Peeples Cooper	Washington
Paul Clifton Croft	Etowah
James Louis Edwards	Jefferson
James Chester Elmer	Mississippi
Edgar Earl Ferrell	Eutaw
Benjamin Fitzpatrick	Montgomery
Eugene Goldthwaite	Pike
James Haynes Gumm	Georgia
†Herbert Elwood Hawkins	Lee
†Clute Bernard Hixon	Covington
James Elliott Holt	Russell
Charles Edwin Jackson	Madison
†Frank Otey Johnson	Florida

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† Not in full standing.

Claude Bolling Jones	Lowndes
Hilery Boston Jones	Baldwin
Alry Carlisle Jordan	Clarke
Thomas Reeves Leavel	Greene
†Thomas Edward Long	Perry
Darrell Francis Marion	Dallas
Joel Angus McGwier	Colbert
†Benjamin McMillan	Mobile
Jay Frank Morgan	Georgia
George Newburgh Montgomery	Washington
†Cicero Lewis Nelson	Baldwin
†Benjamin Peeples	Tennessee
†Louis Amos Phillips	Colbert
John Henry Powell	Lee
†Marshall Gowan Price	Marengo
Edgar Hill Pritchett	Wilcox
Charles Eugene Rhodes	Marengo
Willis Autray Riley	Covington
Joseph Molton Sadler	Lowndes
Joseph Luther Selden	Marengo
†Samuel Homer Thornton	Pike
William Biggers Tucker	Lee
Elbert Fain Webb	Cherokee
Thomas Jefferson Webb	Cherokee
†James Samuel Webb	Lee
†Fletcher Gordon Webb	Lee
Cullen Haddley Wimberly	Sumter
Thomas Pelham Winston	Lee
Walter Scott Wilson	Bullock

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† Not in full standing.

SUMMARY.

Graduates	17
Senior Class	61
Junior Class	46
Sophomore Class	75
Freshman Class	75
Special and Irregular Students	83
Total in College Classes	357
Sub-Freshman Class	55
Total	412

NUMBER OF STUDENTS IN EACH SUBJECT OF STUDY.

English	340	Geology	58
History	208	Civil Engineering	23
French	39	Electrical Engineer'g	55
German	36	Mechanical Engr'g	57
Latin	119	Biology	27
Mental Science	19	Drawing	256
Political Economy	51	Mechanic Arts	260
Mathematics	303	Military Department	381
Chemistry	172	Mineralogy	22
Chemical Laboratory	150	Physical Laboratory	66
Agriculture	116	Physiology	100
Physics	228	Veterinary Science	34
Botany	97	Pharmacy	44
Horticulture	37	Bacteriology	16

RESIDENCE BY STATES.

Alabama	341
Georgia	27
Florida	17
Tennessee	7
Mississippi	5
South Carolina	4
New York	2
Nicaragua	2
Cuba	1
Kentucky	1
Pennsylvania	1
Virginia	1
Texas	1
Minnesota	1
Missouri	1
Total	412

MILITARY ORGANIZATION,
1900-1901.

President.

W. L. BROUN.

Commandant.

Col. B. S. PATRICK.

Surgeon.

J. H. DRAKE.

Battalion Staff.

Cadet Captain J. D. Foy, Assistant to Commandant.
Cadet First Lieutenant J. B. Powell, Adjutant.
Cadet First Lieutenant G. Whitfield, Quartermaster.
Cadet First Lieutenant H. H. Conner, Assistant Adjutant.
Cadet Sergeant W. D. Willis, Sergeant Major.
Cadet Sergeant J. B. Garber, Quartermaster Sergeant.

Cadet Captains.

1. S. H. Roberts.
2. A. F. Jackson.
3. M. S. Sloan.
4. E. H. Wills.

Cadet First Lieutenants.

1. M. H. Moore.
2. W. B. McGehee.
3. W. L. Greene.
4. M. C. Turpin.
5. B. B. Meriwether.
6. R. T. Arnold,
7. D. T. Parker.
8. J. T. Letcher.

Cadet Second Lieutenants.

1. E. S. Killebrew.
2. W. R. Lancaster.
3. W. H. Eagar.

Cadet First Sergeants.

1. J. E. D. Yonge,
2. J. A. Kyser,
3. J. D. Elliott,
4. W. M. Askew.

Cadet Sergeants.

1. G. W. Snedecor,
2. C. A. Collins,
3. W. C. Coles,
4. R. B. Shepard,
5. H. B. Park,
6. D. W. Peabody,
7. R. G. Dawson,
   (Color Sergeant.)
8. J. D. Farley,
9. F. J. Houston,
10. M. Ketchum,
11. M. Ellis,
12. E. L. Carroll,
13. M. J. Lide,
14. J. O. Webb,
15. T. M. McCarroll,
16. W. B. Hamilton,
17. C. E. Feagin,
18. D. T. Herndon.

Cadet Corporals.

1. W. J. Knight,
2. H. E. Davis,
3. W. W. Davis,
4. D. Chipley,
5. H. M. Yonge,
6. T. J. Dowdell,
7. A. M. Avery,
8. T. H. Matson,
9. L. E. Thornton,
10. P. M. Marshall,
11. W. H. Wiley,
12. W. W. Rutland,
13. J. H. Mitchell,
14. W. L. Thornton,
15. F. E. Hunt,
16. W. L. Halsey,
17. E. Taylor.

THE A. P. I. CADET BAND.

M. THOS. FULLAN, Bandmaster.

L. STERNFELD, Principal Musician.

A. M. Avery,
R. C. Armstrong,
F. C. Atkinson,
N. A. Beringer,
I. Boyd,
V. R. Emrick,
M. Ellis,
G. B. Foss,
A. R. Gray,
M. Harwell,
W. L. Harwell,
J. C. Harper,
I. L. Jordan,
M. D. Kahn,
C. Lay,
G. N. Montgomery,
A. B. Nelson,
E. J. Pierce,
G. Sequiera,
H. E. Werner,

E. J. CARROLL, Drum Major.

Cadets of the graduating class who were reported to the Adjutant General, U. S. Army, for publication in the "Official Army Register" as having ranked highest in the Military Department:

1889.

A. St. Dunstan,
B. H. Crenshaw,
A J. Burr.

1890.

F. D. Milstead,
J. W. Bivins,
G. W. Emory.

1891

L. E. Baker,
C. C. Johnson,
F. J. Bivins.

1892.

H. F. Dobbin,
A. L. Jones,
C. L. Brown.

1893.

Joel Dumas,
C. H. Smith,
J. F. Webb.

1894.

C. S. Andrews,
P. P. McKeown,
R. T. Dorsey.

1895.

S. L. Coleman,
H. H. Smith,
L. B. Gammon.

1896.

A. L. Alexander,
W. L. Fleming,
W. M. Williams.

1897.

P. G. Clark,
G. M. Holley,
G. N. Mitcham.

1898.

A. H. Clark,
A. McB. Ransom,
Jno. Haralson.

1899.

I. F. McDonnell,
A. H. Feagin,
T. W. Wert.

1900.

E. M. Mason,
H. P. Powell,
C. W. Nixon.

REQUIREMENTS FOR ADMISSION.

All applicants for admission should present testimonials of good moral character, and those who come from other colleges must present certificates of honorable discharge.

To enter the freshman class the applicant must be not less than fifteen years of age, and should be qualified to pass a satisfactory examination on the following subjects:

1. Geography and History of the United States.

2. English—(a) English grammar as contained in any standard text. (b) An examination upon sentences containing incorrect English. (c) A composition giving evidence of satisfactory proficiency in spelling, punctuation, grammar, and division into paragraphs.

(a) *Reading.* The composition in 1901 will be upon subjects drawn from one or more of the following works in English Literature: (1) Hughes's *Tom Brown at Rugby;* (2) Southey's *Life of Nelson;* (3) Shakespeare's *Julius Caesar;* (4) Longfellow's *Evangeline;* (5) Scott's *Ivanhoe;* (6) Shakespeare's *Merchant of Venice;* (7) Irving's *Sketch Book;* (8) Macaulay's *Essay on Milton;* (9) Scott's *Marmion;* (10) Dickens's *David Copperfield.*

The candidate will be required to present evidence of a general knowledge of the subject matter, and to answer simple questions on the lives of the authors. This part of the examination is intended to test only a general knowledge of the substance of the books.

(b) *Study and Practice.* This part of the examination presupposes the thorough study of the style of the work, and will be upon *Julius Cæsar* and the *Essay on Milton.*

Preparation and examination on these works will be necessary before the student is classed as regular in any course.

3. Mathematics—(a) Arithmetic, including fundamental operations; common and decimal fractions; denominate numbers; the metric system; percentage, including interest and discount; proportion. (b) Algebra to quadratic equations; especial preparation is urged in *fundamental operations, factoring, multiples, divisors* and *fractions;* one book of geometry.

4. Those applicants who desire to continue the study of Latin should be qualified to pass a satisfactory examination in Latin grammar and the first two books of Cæsar, in addition to the above subjects.

In pronouncing Latin it is recommended that *ā* be pronounced as in *father*, *ă* as the *a* in *Cuba;* *ē* as in *prey.* *ĕ* as in *men;* *ī* as in *machine*, *ĭ* as in *cigar*; ō as in *old*, *ŏ* as in *obey;* *ū* as in *rule*, *ŭ* as in *full;* *j* as *y* in *yard*; *c* always as *k* in *king;* *g* always as *g* in *get.*

For admission to the higher classes, students should be prepared to stand a satisfactory examination in all of the studies of the lower classes, as shown in the course of study. Students applying for admission to the sophomore class will be examined in mathematics through quadratic equations and logarithms in Algebra, and on seven books in geometry. Where opportunity has not been offered to pursue special studies required at this College, the system of equivalents will be adopted, and studies which denote an equivalent amount of discipline and training will be accepted as satisfactory. But if not prepared to pass an examination in history and chemistry at the time of application, the applicant will be required before graduation to pass a satisfactory examination on those subjects.

It is absolutely essential that students, who hope to succeed, should be well grounded in Arithmetic, Algebra, and Geometry.

A working knowledge of the metric system should also be obtained.

ADMISSION ON CERTIFICATE.

Applicants will be admitted without examination on presenting a certificate from any of the CERTIFICATE SCHOOLS named herein.

The following educational institutions having made application to be correlated to this College and having presented an approved course of study, are hereby declared to be CERTIFICATE SCHOOLS, and are granted the privilege set forth in the following:

"Students from certificate schools will be admitted to the fresh- "man class *without examination* upon the certificate of the presi- "dent or principal showing definitely that such students have com- "pleted satisfactorily all the studies required for admission, as "stated in the catalogue and are otherwise admissible."

The privilege of admitting students to the Sophomore class on certificate will be granted only to those approved schools that have had a continuous existence for five years or more and have previously had pupils admitted to that class without conditions.

The following form of certificate will be used:

I hereby certify that A............, B..........has attended the (*name the school or academy*) for..........years and has studied the following subjects:

in History.....................................(*name the books*)

in English.....................................(*name the books*)

in Algebra...........................(*state amount accomplished*)

in Geometry........................(*state amount accomplished*)

in Latin.......................................(*state books read*)

and having passed a satisfactory examination on these subjects as required in the Catalogue for admission to the..............class, I recommend him for the same.

Admission by certificate is regarded as provisional.

That is, though admitted to the class for which the certificate calls, the applicant may be required to take a special examination in any subject in which his preparation proves unsatisfactory, or, after a fair trial, he may be dropped to a lower class, if he fails to maintain standing in the class to which he may be admitted.

CERTIFICATE SCHOOLS.

University Military School, Mobile	J. D. Wright.
Verner Military Institute, Tuscaloosa	W. H. Verner.
University School, Montgomery	J. M. Starke.
Mt. Willing High School, Mt. Willing	J. Knight.
State Normal School, Jacksonville	C. W. Daugette.
Male Academy, Huntsville	F. Puryear.
Furman Academy, Livingston	L. A. Cockrell.
High School, Opelika	J. M. Smallwood.
University Military School, Clanton	E. Y. McMorries.
Eighth District Agricultural School, Athens	M. K. Clements.
Sixth District Agricultural School, Hamilton	G. A. Holley.
Eutaw Male Academy, Eutaw	H. C. Horton.
Boy's High School, Anniston	H. C. Gunnels.
Taylor's School, Birmingham	W. P. Taylor.
University High School, Birmingham	I. J. White, M. B. Dickinson.
Fourth District Agricultural School, Sylacauga	A. G. Seay.
Gaylesville High School	John R. Ray.
Carrollton Academy	L. V. Rosser.
Ninth District Agricultural School, Blountsville	J. A. B. Lovett.
Gadsden High School	I. W. Hill.
Boyd High School, Ramer	B. H. Boyd.
Dadeville High School	J. D. Lane.
Prattville High School	A. W. Holstun.
Eufaula High School	F. L. McCoy.
Union Springs High School	J. M. Sanders.
Montgomery High School	C. L. Floyd.
Calera Academy	C. C. Slaton.
Southern Agricultural School, Abbeville	J. B. Murphy.
Barnes's School, Montgomery	E. R. Barnes.
Jackson Agricultural School	J. B. Murphy.
Spring Lake School	W. C. Griggs.
West Alabama Agricultural School, Hamilton	G. A. Holly.

ADMISSION OF YOUNG WOMEN.

The privilege of becoming students in this college is granted by the Trustees to young women of mature mind and character, on the following conditions:

The applicant must be seventeen years of age, and if a candidate for a degree, be able to pass a satisfactory examination in each of the four subjects as named below.

If the applicant is a candidate for admission as a special or irregular student, she must be able to pass a satisfactory examination in two of the subjects named, and may be admitted at an age less than seventeen, with a resident of Auburn acting as guardian, if application is approved by the Faculty.

(a) In English—Proficiency in spelling and punctuation; Grammar (Lockwood-Whitney); Rhetoric (Lockwood's Lessons and Genung's Outlines of Rhetoric); Scudder's Masterpieces of American Literature; Syle's From Milton to Tennyson.

For requirements in reading in literature see page 41.

(b) In History—Macy's Our Government; Chambers's History of the United States; Myers's General History.

(c) In Mathematics—Arithmetic; Algebra, including quadratic equations, logarithms and series; Plane and Solid Geometry; Plane and Analytic Trigonometry, as in Wentworth.

(d) In Latin—Grammar, including the forms and syntax; Jones's Latin Prose Composition; translation of selections from Cæsar, Nepos, Virgil, Cicero's Orations, Cicero's Letters, or the equivalent.

The equivalents of these subjects, as in above text-books, may be substituted.

Botany will constitute a required part of the general course for young women who are candidates for a degree.

When admitted, upon complying with the conditions above stated, they may enter upon the study of any subject taught in the College and join any class, for which, upon examination, they may be found qualified. The only condition imposed will be that they engage in earnest study, and attend the exercises regularly. They will board in the town with private families and attend college only at the hours of their exercises.

ENTRANCE EXAMINATIONS.

Entrance examinations will be held on Wednesday, the 11th of September, the day on which the session opens. Candidates will also be examined during the session, when application is made for admission.

Applicants who are not prepared to stand the entrance examinations for full admission to the freshman class are admitted to the sub-college department, provided they are fifteen years of age, and are found after examination qualified to profit by the instruction given. Those who, after admission, are inattentive to their studies, and neglectful of their duties will be required to withdraw, but those who are studious and make sufficient progress will be advanced to full admission to the Freshman class when they are qualified to pass satisfactorily the required examinations.

Students, upon their arrival at Auburn, will report immediately to the President. No student will be admitted to a recitation in any class previous to matriculation.

NUMBER OF EXERCISES REQUIRED.

All students are required to have not less than fifteen recitations per week, or their equivalent, in addition to the exercises in laboratory work, drawing and military drill. These additional exercises occupy not less than twelve hours per week, and in all give twenty-seven to thirty hours per week required in college exercises.

Special and Irregular Students.

The privilege of electing studies in the lower classes is not granted to young students nor to their parents. The Faculty will assign a student, on admission, to that class of a prescribed course for which he is qualified; and for special reasons, approved by the Faculty, he may be permitted to become irregular.

Students qualified to prosecute the studies of the junior class, and those over twenty-one years of age that are not candidates for a degree, are permitted to take, with the advice of the Faculty, the subjects of study for which they may be qualified.

For an applicant to enter upon the study of Electrical and Mechanical Engineering as a special or irregular student, he must have studied Algebra through quadratics and logarithms, plane geometry, and plane trigonometry.

The professor in charge of a department will decide by examination whether a special student is prepared for admission to his class.

A student who does not take all the studies in a class of one of the degree courses, as prescribed in the catalogue, and is permitted to take an irregular course, will be assigned to a member of the Faculty, who will act as his special adviser, and when his course of study has been approved by the Faculty no other change will be permitted without the endorsement of his adviser.

Regular students who fail to pass satisfactory final examinations in any one study become irregular students. They will be classed as regular students pursuing a course for a degree, whenever they can pass the examinations in those subjects in which they were found deficient.

Students, candidates for a degree, who are not in full standing in all the prescribed studies of a class, rank in the military department with that class in which they have the greatest number of studies, and their names are so placed in the catalogue.

ADMISSION TO HIGHER CLASSES.

At the beginning of each term a student in the sub-freshman class may, on application approved by the Faculty, be examined for admission to the freshman class in history, english, mathematics, and be admitted to the freshman class in that subject only.

Students who have completed satisfactorily all the studies of the sophomore class, as prescribed in the catalogue, in any one of the regular degree courses, can enter, without condition, the junior class in any course, except in the general course, or the course in pharmacy, in which Latin is required.

Students who are admitted to the junior class from other institutions, on examination in English, Latin, and mathematics, and who have not completed all the studies of the sophomore class, in order to graduate, will be required to complete the course in chemistry and history as taught in the sophomore class.

COURSES OF INSTRUCTION.

The courses of study include the Physical, Chemical, and Natural Sciences, with their applications; Agriculture; Biology; Mechanics, Astronomy, Mathematics; Drawing; Civil, Electrical, and Mechanical Engineering; Physiology and Veterinary Science; Pharmacy; English, French, German, and Latin Languages; History, Political Economy; Mental and Moral Sciences.

These studies are arranged in regular courses so as to offer a liberal and practical education as a preparation for the active pursuits of life.

There are five degree courses for undergraduates, each leading to the degree of Bachelor of Science, (B. Sc.) and requiring four years for its completion.

I. COURSE IN CHEMISTRY AND AGRICULTURE.

II. COURSE IN CIVIL ENGINEERING.

III. COURSE IN ELECTRICAL AND MECHANICAL ENGINEERING.

IV. GENERAL COURSE.

V. COURSE IN PHARMACY.

There are also three partial courses, each requiring two years for its completion:

VI. TWO-YEAR COURSE IN AGRICULTURE.

VII. TWO-YEAR COURSE IN MECHANIC ARTS.

VIII. TWO-YEAR COURSE IN PHARMACY.

Course 1. includes theoretical and practical instruction in those branches that relate to chemistry and agriculture, and is especially adapted to those who propose to devote themselves to agriculture or chemical pursuits.

Course II. includes the principles and applications of the sciences that directly relate to civil engineering.

and is adapted to those who expect to enter that profession.

Course III. includes, besides the general principles and applications of the sciences, a special course in the applications of electricity and mechanics, and is arranged for the profession of electrical and mechanical engineering.

Course IV. has been arranged to give a general and less technical education in subjects of science and language to meet the wants of those students who have selected no definite vocation in life, as well as of those who propose ultimately to engage in teaching or in some commercial or professional business.

Course V. includes, besides the general education of course IV. in the lower classes, a special course in pharmacy and chemistry, and is adapted to those who expect to become pharmacists, manufacturing chemists, or to enter upon the study of medicine.

Courses VI. VII. VIII. have been arranged for the benefit of those students who, for reasons satisfactory to themselves, are unable to continue at college four years and to take one of the regular degree courses.

A student who completes satisfactorily all the work of the senior class in a department, including the laboratory work, will be awarded a certificate of proficiency in said subject.

Students who complete either of the two-year courses will, on passing a satisfactory examination, receive certificates indicating their attainments.

No degree or certificate of proficiency will be given in any course unless the applicant has passed a satisfactory examination in elementary English. Every candidate for a degree will be required to stand this special examination during the second *term* of the Senior year.

Declamations and themes or orations are required of all regular students pursuing courses leading to a degree.

POST-GRADUATE COURSES.

A more extended post-graduate course of study may be taken by a graduate of this College or of any other institution of equal grade. The completion of a course which leads to a post-graduate degree of Master of Science requires one year's residence at the College, spent in the satisfactory prosecution of a course of study, with such laboratory work as may be approved by the Faculty.

The candidate must also present to the Faculty a satisfactory thesis showing independent investigation upon some subject pertaining to his course, and must pass an examination, at the close of each term, on the course of study prescribed, in which he must attain a grade of 75 per cent. The examination is written, and also oral in the presence of the Faculty.

The subject of the thesis must be submitted to the Faculty for approval prior to January 1st, and the thesis given to the professor by May 1st.

Applicants for a post-graduate degree and special students in post-senior studies are subject to the general regulations as other students, and pay the same fees, but are exempt from all military duty.

The following courses are prescribed for the degree named:

1. *Master of Science.*—Studies in three departments, in two of which the candidate must have previously completed the full course of the senior class; or in special cases, with the approval of the Faculty, a student may devote his full time to work in two departments, in each of which he has completed the full senior course.

2. *Master of Science in Pharmacy.*—Pharmacy and Chemistry.

3. *Master of Science in Civil Engineering.*—Civil Engineering, Mathematics, Analytical Mechanics.

4. *Master of Science in Electrical and Mechanical Engineering.*—Electrical Engineering, Mechanical Engineering.

5. *Master of Science in Mining Engineering.*—Students who have received the degree of B. Sc. in engineering, civil, or electrical and mechanical, or who have prosecuted an equivalent course of study, can enter upon a special course of mining engineering, which includes the following subjects of study:

Industrial Chemistry, Analytic Chemistry, Assaying, Reduction of Ores, Mineralogy, Economic Geology, with practical work in the field, Mining Machinery with the applications of steam and electricity to the various operations connected with the exploitation of mines.

The student, if a candidate for a degree, will also be required to prosecute the necessary studies in that course of engineering in which he has not graduated. This course of study will be under the charge of the professors in the different engineering departments the professor of Chemistry, and the professor of Mineralogy and Geology.

Special Students in Post-Senior Studies.—Students who are not graduates, but are qualified in special subjects to prosecute post-senior studies, and desire to prepare themselves more thoroughly for professional or special work in any one of the departments of engineering, in chemistry or pharmacy, veterinary science, or other subjects in which instruction is given, may, when qualified, with approval of the Faculty, enter this higher department of study and have all the privileges of post-graduate students.

A certificate of proficiency will be given when any one subject of a post-graduate course is satisfactorily completed.

Two degrees will not be given the same year.

PROFESSIONAL DEGREES.

The professional degree of Civil Engineer, Electrical Engineer, Mechanical Engineer. Mining Engineer, or Pharmaceutical Chemist will be given two years after receiving the degree of Master of Science, provided the intervening time of two years has been spent in a responsible position in practical engineering work in that department in which he received the degree of Master of Science, or in practical pharmacy, and an approved thesis is submitted to the Faculty, with a report of the character of the work done.

SPECIAL ONE-YEAR COURSE IN AGRICULTURE.

Young men over twenty-one years of age who desire to study agriculture will be permitted, without examination, to enter any class under the professor of agriculture, and will be excused from reciting in any other class, from military duty, and from all other college duties; but will be under the general college regulations, and will be required to have their time fully occupied.

They may attend the lectures in agriculture in all the classes and engage in the practical work at the experiment station, in the field, stock-yard, dairy, garden, orchard, vineyard, etc., and may thus, in one year, acquire valuable practical knowledge of scientific agriculture.

PHOTOGRAPHY.

During the session there will be given by Professor Mell a course of twelve lectures on photography. This course will be elective, and the instruction will be open to any student that may desire to learn how to make pictures. It will be necessary for each student to provide himself with an outfit that will cost from $11.50 to $16.00.

LABORATORY INSTRUCTION.

Laboratory instruction constitutes an important feature in the courses of education provided for the students of this Institute, and as far as possible all students are required to enter upon laboratory work in some one department.

Laboratory instruction and practical work are given in the following departments:

I. CHEMISTRY.
II. CIVIL ENGINEERING, FIELD WORK, SURVEYING, ETC.
III. AGRICULTURE.
IV. BOTANY.
V. MINERALOGY.
VI. BIOLOGY.
VII. TECHNICAL DRAWING.
VIII. MECHANIC ARTS.
IX. PHYSICS.
X. ELECTRICAL ENGINEERING.
XI. MECHANICAL ENGINEERING.
XII. PHYSIOLOGY AND VETERINARY SCIENCE.
XIII. PHARMACY.

NOTE.—Special work in English or History may be taken by students in the general course as a substitute for laboratory work.

I.—COURSE IN CHEMISTRY AND AGRICULTURE.

The numerals opposite the subjects indicate the number of hours per week.

FRESHMAN CLASS.

First Term.	*Second Term.*	*Third Term.*
5. English.	5. English.	5. English.
2. History.	2. History.	3. History.
5. Mathematics.	5. Mathematics.	5. Mathematics.
3. Elementary Physics.	3. Elementary Physics.	2. Agriculture.
3. Drawing.	3. Drawing.	3. Drawing.
6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y.
3. Military Drill.	3. Military Drill.	3. Military Drill.

SOPHOMORE CLASS.

First Term.	*Second Term.*	*Third Term*
3. English.	3. English.	3. English.
3. History.	3. History.	3. Botany (a).
5. Mathematics.	5. Mathematics.	5. Mathematics.
3. General Chemistry.	3. General Chemistry.	3. General Chemistry.
2. Agriculture.	2. Agriculture.	2. Agriculture (b).
3. Drawing.	3. Drawing.	3. Drawing.
2. Physiology.	2. Physiology.	2. Physiology.
2. Chemical Laboratory.	2. Chemical Laboratory.	2. Chemical Laboratory.
6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y.
3. Military Drill.	3. Military Drill.	3. Military Drill.

JUNIOR CLASS.

First Term.	*Second Term.*	*Third Term.*
3. English.	3. English.	3. English.
3. Physics.	3. Physics.	3. Physics.
3. Industrial Chemistry.	3. Industrial Chemistry.	3. Industrial Chemistry.
2. Agriculture.	2. Agriculture.	2. Agriculture (b).
4. Botany. (Laboratory).	4. Botany. (Laboratory).	4. Botany (Laboratory).
1. Military Tactics.	1. Military Tactics.	1. Military Tactics.
9. Chemical Laboratory.	9. Chemical Laboratory.	9. Chemical Laboratory.
2. Veterinary Science.	2. Veterinary Science.	2. Veterinary Science.
2. Clinical Lab'y.	2. Clinical Laboratory.	2. Clinical Laboratory.
3. Military Drill.	3. Military Drill.	3. Military Drill.

SENIOR CLASS.

First Term.	*Second Term.*	*Third Term.*
2. English Literature.	2. Political Economy (c).	2. Political Economy.
2. Mental Science (d).	2. Mental Science (d).	2. Mental Science (d).
2. Physics.	2. Astronomy.	2. Astronomy.
2. Geology.	2. Geology.	2. Geology.
5. Biology.	5. Biology.	5. Biology.
2. Agricultural Chem't'y.	2. Agricultural Chem't'y.	2. Agricultural Chem't'y.
1. Military Science.	1. Military Science.	1. Military Science.
9. Chemical Laboratory.	9. Chemical Laboratory.	9. Chemical Laboratory.
2. Veterinary Science.	2. Veterinary Science.	2. Veterinary Science.
2. Clinical Laboratory.	2. Clinical Laboratory.	2. Clinical Laboratory.

(a) Begins March 1st.
(b) Also Practical Agriculture.
(c) Begins Feb. 15th.
(d) French or German may be substituted.

II.—COURSE IN CIVIL ENGINEERING.

The numerals opposite the subjects indicate the number of hours perweek.

FRESHMAN CLASS.

First Term.	*Second Term.*	*Third Term:*
5. English.	5. English.	5. English.
2. History.	2. History.	3. History.
5. Mathematics.	5. Mathematics.	5. Mathematics.
3. Elementary Physics.	3. Elementary Physics.	2. Agriculture.
3. Drawing.	3. Drawing.	3. Drawing.
6. Mechanic Art Lab'y.	6 Mechanic Art Lab'y.	6. Mechanic Art Lab'y.
3. Military Drill.	3. Military Drill.	3. Military Drill.

SOPHOMORE CLASS.

First Term.	*Second Term.*	*Third Term.*
3. English.	3. English.	3. English.
3. History.	3. History.	3. Botany (a).
5. Mathematics.	5. Mathematics.	5. Mathematics.
3. General Chemistry.	3. General Chemistry.	3. General Chemistry.
2. Agriculture (b).	2. Agriculture (b).	2. Agriculture (b).
2. Physiology.	2. Physiology.	2. Physiology.
3. Drawing.	3. Drawing.	3. Drawing.
6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y.
2. Chemical Laboratory.	2. Chemical Laboratory.	2. Chemical Laboratory.
3. Military Drill.	3. Military Drill.	3. Military Drill.

JUNIOR CLASS.

First Term.	*Second Term.*	*Third Term.*
3. English, French, or German.	3. English, French. or German.	3. English, French, or German.
3. Physics.	3. Physics	3. Physics.
5. Mathematics.	5. Mathematics.	5. Mathematics.
5. Civil Engineering.	5. Civil Engineering.	5. Civil Engineering.
5. Drawing.	5. Drawing.	5. Drawing.
1. Military Tactics.	1. Military Tactics.	1. Military Tactics.
6. Lab'y, Mech. Arts (c).	6. Lab'y, Mech. Arts (c).	6. Lab. Mech. Arts (c).
1. Field Work, Engin'g.	1. Field Work, Engin'g.	1. Field Work, Engin'g.
3. Military Drill.	3. Military Drill.	3. Military Drill.

SENIOR CLASS.

First Term	*Second Term.*	*Third Term.*
2. English Literat'e (d).	2. Political Economy (d).	2. Political Economy (d).
2. Physics.	2. Astronomy.	2. Astronomy.
2. Geology.	2. Geology.	2. Geology.
3. Mathematics.	3. Mathematics.	3. Mathematics.

(a) Begins March 1st.

(b) For Agriculture may be substituted Physical Laboratory.

(c) Or Mineralogy.

(d) For Eng. Lit and Pol. Econ. may be substituted French or German.

5. Civil Engineering.	5. Civil Engineering.	5. Civil Engineering.
5. Drawing.	5. Drawing.	5. Drawing.
1. Military Science.	1. Military Science.	1. Military Science.
4. Mech. Eng., Lab'y.	4. Mech. Eng., Lab'y.	4. Mech. Eng., Lab'y.
Field Work, Engin'g.	Field Work, Engin'g.	Field Work, Engin'g.

III.—COURSE IN ELECTRICAL AND MECHANICAL ENGINEERING.

The numerals opposite the subjects indicate the number of hours per week. In freshman and sophomore classes the same studies are prescribed as in Course II in Civil Engineering.

JUNIOR CLASS.

First Term.	*Second Term.*	*Third Term.*
3. English, French, or German.	3. English, French, or German.	3. English, French, or German.
3. Physics.	3. Physics.	3. Physics.
5. Mathematics.	5. Mathematics.	5. Mathematics.
4. Electrical Engin'g.	4. Electrical Engin'g.	4. Electrical Engin'g,
3. Mech. Engineering.	3. Mech. Engineering.	3. Mech. Engineering.
4. Mechanical Drawing.	4. Mechanical Drawing.	4. Mechanical Drawing.
4. Electrical Lab'y.	4. Electrical Lab'y.	4. Electrical Lab'y.
6. Mech, Art Lab'y.	6. Mech. Art Lab'y.	6. Mech. Art Lab'y.
1. Military Tactics.	1. Military Tactics.	1. Military Tactics.
3. Military Drill.	3. Military Drill.	3. Military Drill.

SENIOR CLASS.

First Term.	*Second Term.*	*Third Term.*
2. Eng. Literature (a).	2. Political Econo'y (a).	2. Political Econo'y (a).
2. Physics.	2. Astronomy.	2. Astronomy.
2. Geology.	2. Geology.	3. Geology.
3. Mathematics.	3. Mathematics.	3. Mathematics.
5. Electrical Engin'g.	5. Electrical Engin'g.	5. Electrical Engin'g.
5. Mech. Engineering.	5. Mech. Engineering.	5. Mech. Engineering.
2. Electrical Designing.	2. Electrical Designing.	2. Electrical Designing.
6. Electrical Lab'y.	6. Electrical Lab'y.	6. Electrical Lab'y.
4. Mech. Eng. Lab'y.	4. Mech. Eng. Lab'y.	4. Mech. Eng. Lab'y.
1. Military Science.	1. Military Science.	1. Military Science.

(a) French or German may be substituted.

IV.—GENERAL COURSE.

The numerals opposite the subjects indicate the number of hours per week.

FRESHMAN CLASS.

First Term.	*Second Term.*	*Third Term.*
3. English.	3. English.	3. English.
2. History.	2. History.	3. History.
3. Latin.	5. Latin.	3. Latin.
5. Mathematics.	5. Mathematics.	5. Mathematics.
3. Drawing.	3. Drawing.	2. Agriculture.
6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y.	3. Drawing.
3. Military Drill.	3. Military Drill.	6. Mechanic Art Lab'y.
		3. Military Drill.

SOPHOMORE CLASS.

First Term.	*Second Term.*	*Third Term.*
5. Latin.	5. Latin.	5. Latin.
3. History.	3. History.	3. Botany (a).
5. Mathematics.	5. Mathematics.	5. Mathematics.
3. General Chemistry.	3. General Chemistry.	3. General Chemistry.
3. Drawing.	3. Drawing.	3. Drawing.
6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y.
2. Chemical Laboratory.	2. Chemical Laboratory.	2. Chemical Laboratory.
3. Military Drill.	3. Military Drill.	3. Military Drill.

JUNIOR CLASS.

First Term.	*Second Term.*	*Third Term.*
3. English.	3. English.	3. English.
3. Physics.	3. Physics.	3. Physics.
3. Mathematics.	3. Mathematics.	3. Mathematics.
3. French.	3. French.	3. French.
3. German.	3. German.	3. German.
3. Latin.	3. Latin.	3. Latin.
1. Military Tactics.	1. Military Tactics.	1. Military Tactics.
6. Laboratory Work (b).	6. Laboratory Work (b).	6. Laboratory Work (b).
3. Military Drill.	3. Military Drill.	3. Military Drill.

SENIOR CLASS.

First Term.	*Second Term.*	*Third Term.*
2. English.	2. Political Economy (c).	2. Political Economy.
2. Mental Science.	2. Mental Science.	2. Mental Science.
2. Physics.	2. Astronomy.	2. Astronomy.
2. Geology.	2. Geology.	2. Geology.
3. French.	3. French.	3. French.
3. German.	3. German.	3. German.
2. Latin.	2. Latin.	2. Latin.
1. Military Science.	1. Military Science.	1. Military Science.
6. Laboratory Work (b).	6. Laboratory Work (b).	6. Laboratory Work (b).

(a) Begins March 1st.

(b) The student may elect the laboratory of any department for which he may be qualified.

(c) Begins February 15th.

V.—COURSE IN PHARMACY.

The numerals opposite the subjects indicate the number of hours per week.

FRESHMAN CLASS.

First Term.	*Second Term.*	*Third Term.*
3. English.	2. English.	3. English.
2. History.	2. History.	3. History.
5. Latin.	5. Latin.	3. Latin.
5. Mathematics.	5. Mathematics.	5. Mathematics.
3. Drawing.	3. Drawing.	3. Drawing.
6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y.	2. Agriculture.
3. Military Drill.	3. Military Drill.	6. Mechanic Arts.
		3. Military Drill.

SOPHOMORE CLASS.

First Term.	*Second Term.*	*Third Term.*
5. Latin.	5. Latin.	5. Latin.
3. History.	3. History.	3. Botany (a).
5. Mathematics.	5. Mathematics.	5. Mathematics.
3. General Chemistry.	3. General Chemistry.	3. General Chemistry.
2. Physiology.	2. Physiology.	2. Physiology.
3. Drawing.	3. Drawing.	3. Drawing.
6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y.
2. Chemical Laboratory.	2. Chemical Laboratory.	2. Chemical Laboratary.
3. Military Drill.	3. Military Drill.	3. Military Drill.

JUNIOR CLASS.

First Term.	*Second Term.*	*Third Term.*
2. Physics.	3. Physics.	3. Physics.
6. Chemical Laboratory.	6. Chemical Laboratory.	6. Chemical Laboratory.
4. Botanical Laboratory.	4. Botanical Laboratory.	4. Botanical Laboratory.
3. English (b).	3. English (b).	3. English (b).
3. Pharmacy.	3. Pharmacy.	3. Pharmacy.
9. Pharmaceutical Lab'v.	9. Pharmaceutical Lab'y.	9. Pharmaceutical Lab'y.
4. Pharmacognosy.	4. Pharmacognosy.	4. Pharmacognosy.
1. Military Tactics.	1. Military Tactics.	1. Militarv Tactics.
3. Military Drill.	3. Military Drill.	3. Military Drill.

SENIOR CLASS.

First Term.	*Second Term.*	*Third Term.*
5. Biology.	5. Biology.	3. Biology.
6. Chemical Laboratory.	6. Chemical Laboratory.	6. Toxicology.
5. Pharmacy.	5. Pharmacy.	5. Pharmacy.
8. Pharmaceutical Lab'y.	8. Pharmaceutical Lab'y.	8. Pharmaceutical Lab'y
5. Pharmacognosy.	5. Pharmacognosy.	5. Pharmacognosy.
2. Military Science.	1. Military Science.	1. Military Science.
3. Materia Medica.	3 Materia Medica.	3. Bacteriology.

(a) Begins March 1st.
(b) French or German may be substituted.

VI.—TWO-YEAR COURSE IN MECHANIC ARTS.

FIRST YEAR.

First Term.	*Second Term.*	*Third Term.*
5. English.	5. English.	5. English.
2. History.	2. History.	2. History.
5. Mathematics.	5. Mathematics.	5. Mathematics.
3. Elementary Physics.	3. Elementary Physics.	2. Agriculture.
3. Drawing.	3. Drawing.	3. Drawing.
6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y.
3. Military Drill.	3. Military Drill.	3. Military Drill.

SECOND YEAR.

First Term.	*Second Term.*	*Third Term.*
3. English.	3. English.	3. English.
5. Mathematics.	5. Mathematics.	5. Mathematics.
3. Physics.	3. Physics.	3. Physics.
3. Drawing.	3. Drawing.	3. Drawing.
12. Mechanic Art Lab'y.	12. Mechanic Art Lab'y.	12. Mechanic Art Lab'y.
3. Military Drill.	3. Military Drill.	3. Military Drill.

VII.—TWO-YEAR COURSE IN AGRICULTURE.

FIRST YEAR.

First Term.	*Second Term.*	*Third Term.*
5. English.	5. English.	5. English.
2. History.	2. History.	2. History.
5. Mathematics.	5. Mathematics.	5. Mathematics.
3. Elementary Physics.	3. Elementary Physics.	2. Agriculture.
3. Drawing.	3. Drawing.	3. Drawing.
4. Mechanic Art Lab'y.	4. Mechanic Art Lab'y.	4. Mechanic Art Lab'y.
3. Military Drill.	3. Military Drill.	3. Military Drill.
2. Practical Agricult're.	2. Practical Agricult're.	2. Practical Agricult're.

SECOND YEAR.

First Term.	*Second Term.*	*Third Term.*
3. English.	3. English.	3. English.
5. Mathematics.	5. Mathematics.	5. Mathematics.
3. General Chemistry.	3. General Chemistry.	3. General Chemistry.
4. Agriculture.	4. Agriculture.	4. Agriculture.
2. Physiology.	2. Physiology.	2. Physiology.
2. Veterinary Science.	2. Veterinary Science.	2. Veterinary Science.
12. Practical Agricult're.	12. Practical Agricult're.	12. Practical Agricult're
3. Military Drill.	3. Military Drill.	3. Military Drill.

VIII.—TWO-YEAR COURSE IN PHARMACY.

FIRST YEAR.

First Term.	*Second Term.*	*Third Term.*
3. General Chemistry.	3. General Chemistry.	3. General Chemistry.
2. Chemical Lab'y.	2. Chemical Lab'y.	2. Chemical Lab'y.
3. English.	3. English.	3. Botany.
2. Physiology.	2. Physiology.	2. Physiology.
3. Pharmacy.	3. Pharmacy.	3. Pharmacy.
4. Pharmacognosy.	4. Pharmacognosy.	4. Pharmacognosy.
6. Mech. Art Lab'y. (a)	6. Mech. Art Lab'y. (a)	6. Mech. Art Lab'y. (a)
3. Military Drill.	3. Military Drill.	3. Military Drill.

SECOND YEAR.

First Term.	*Second Term.*	*Third Term.*
5. Pharmacy.	5. Pharmacy.	5. Pharmacy.
5. Pharmacognosy.	5. Pharmacognosy.	5. Pharmacognosy.
8. Pharmaceutical Lab.	8. Pharmaceutical Lab.	8. Pharmaceutical Lab.
6. Chemical Lab'y.	6. Chemical Lab'y.	7. Toxicology.
3. Materia Medica.	3. Materia Medica.	3. Bacteriology.
6. Botanical Lab'y.	6. Botanical Lab'y.	6. Botanical Lab'y.
3. Military Drill.	3. Military Drill.	3. Military Drill.

(a) or Physical Laboratory.

SCHEDULE OF EXERCISES.

HOURS	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
I. 8–9	4. Algebra. 3. Latin. 1 and 2 Drawing. 1. Elec. Engine'r'g 2. Mec. Engine'r'g 1. Biology. 1. German.	3. Agriculture. 4. Geometry. 3. Latin. 2. German. 1 and 2 Drawing. 2. Botany. 1. Elec. Engine'r'g 1. Mental Science.	4. Algebra. 3. Latin. 1 and 2 Drawing. 1. Vet. Science. 1. Elec. Engine'r'g 1. German. 2. Mech'l Eng.	4. Geometry. 3. Latin. 2. German. 1 and 2 Drawing. 2. Botany. 1. Mental Science. 1. Elec. Engine'r'g 2. Mech'l Eng.	4. Algebra. 3. Latin. 1 and 2 Drawing. 1. Veterinary Sci. 1. Elec. Engine'r'g 1. German.	Exercises in Elocution.
II. 9–10	4. English. 3. Chemistry. 2. Civ. Engineer'g. 2. Latin. 1. Calculus. 1. Biology. 2. Elec. Engine'r'g	4. History. 3. Physiology. 2. Civ. Engine'r'g. 2. Botany. 2. Elec. Engine'r'g 1. Chemistry. 1. French.	4. English. 3. Chemistry. 2. Civ. Engineer'g. 2. Latin. 1. Calculus. 2. Vet. Science. 2. Elec. Engine'r'g	4. History. 3. Agriculture. 2. Civ. Engine'r'g. 2. Botany. 2. Elec. Engine'r'g 1. Chemistry. 1. French.	4. English. 3. Chemistry. 2. Civ. Engine'r'g. 2. Latin. 2. Mech'l Drawing 1. Calculus. 2. Vet. Science.	Military Drill.
III. 10–11	3. English. 2. Physics. 1. Civ. Engine'r'g. 1. Biology. 1. Latin. 1. Mec. Engine'r'g	1. Machine Desi'g. 3. History (1, 2). 3. Botany (2, 3). 1. Biology. 1. Civ. Engineer'g 4. English. 1. Mec. Engine'r'g 2. French. 2. Mec. Drawing.	3. English. 2. Physics. 1. Latin. 1. Civ. Engineer'g 1. Biology. 1. Mech. Engin'r'g	1. Machine Desi'g. 3. History (1, 2). 3. Botany (2, 3). 1. Civ. Engin'r'g. 4. English. 1. Mech. Engin'r'g 2. French. *	3. English. 2. Physics. * 1. Civ. Engineer'g. 4. History (3). 1. Mech. Engin'r'g	Mechanic Arts. Chemical Laboratory. Electrical Laboratory. Physical Laboratory. Veterinary Clinics. Biological Laboratory. Field Engineering.

HOURS	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
IV. 11–12	4. Physics (1, 2). 4. Agricultnre (3). 4. Latin (1, 2). 3. Drawing. 2. Mathematics. 2. Chemistry. 1. English (1, 2). 1. Pol. Econ. (2,3). 4. Mechanic Arts.	4. Latin. 3. Drawing. 2. Agriculture. 2. Mathematics. 1. Chemistry. 1. French. 1. Physics.	4. Physics (1, 2). 4. Latin (3). 3. History (1, 2). 3. Botany (2, 3.) 2. Mathematics. 2. Chemistry. 1. English (1, 2). 1. Political Economy (2, 3). 4. Mechanic Arts.	4. Latin. 2. Agriculture. 2. Mathematics. 1. Chemistry. 3. Physiology. 1. French. 1. Physics.	4. Physics (1, 2). 4. Agriculture (3). 4. Latin (1, 2). 3. Drawing. 2. Mathematics. 2. Chemistry. 1. MilitaryScience 4. Mechanic Arts.	3. Mechanic Arts. Chemical Laboratory. Electrical Laboratory. Physical Laboratory. Veterinary Clinics. Biological Laboratory. Field Engineering.
V. 12–1	4. Drawing. 3. Mathematics. 2. English. 4. Mechanic Arts. 1. Elec. Designi'g. 1. French.	3. Mathematics. 2. English. 1. Geology.	4. Drawing. 3. Mathematics. 4. Mechanic Arts. 2. German. 1. Elec. Designing 2. Anal. Chemis'ty	3. Mathematics. 2. English. 1. Geology.	4. Drawing. 3. Mathematics. 4. Mechanic Arts. 1. Elec. Designing. 2. MilitaryTactics	3. Mechanic Arts. Chemical Laboratory. Electrical Laboratory. Physical Laboratory. Veterinary Clinics. Biological Laboratory. Field Engineering.
P.M. VI, VII 2–4	4. Mechanic Arts. 3. Field Work Agr. 1 & 2 Laboratory. Chemistry. 1 & 2 Field Work, Engineering. 1 & 2 Mach. Work. Elec. Lab. Work. Physical Labor'y.	3. Mechanic Arts. 2. Mineralogical Laboratory. Military Drill (*). 1. Mech. Lab'tory. Elec. Lab'y Work. 1 and 2 History.	4. Mechanic Arts. 3. Field Work Agr. 1 & 2 Laboratory, Chem. 1 & 2 Field Work, Engineering. 1 & 2 Mach. Work. Ex'cis. in Elocut'n Elec. Lab. Work. Physical Labor'y.	3. Mechanic Arts. 2. Mineralogical Laboratory. Military Drill (*) 1. Mech. Labor'y. Elec. Lab'y Work. 1 and 2 History.	4. Mechanic Arts. 3. Field Work Agr. 2. French. 1 & 2 Lab. Chem. 1 & 2 Field Work. Engineering. 1 & 2 Mach. Work. Ex'cis. in Elocut'n Elec. Lab. Work. Physical Labor'y.	

Chapel services daily at 7:45 a. m.

Numbers prefixed denote classes—1 denotes senior, 2 junior, etc. Numbers affixed—(1), (2), (3), denote terms.

*From 4:30 to 5:30 p. m.

DEPARTMENTS OF INSTRUCTION.

PHYSICS AND ASTRONOMY.

PROFESSOR DUNSTAN.

ASSISTANT PROFESSOR KYSER.

ASSISTANT JEPSON.

The instruction is given by the recitation from text books and lectures, illustrated by experiments and stereopticon projections.

The following courses are given in this department:

FRESHMAN COURSE.

First and Second Terms. (Three recitations per week). Elementary general physics.

TEXT-BOOK.

Cooley's Physics.

SOPHOMORE LABORATORY COURSE.

This is a laboratory course to follow the Freshman Course in general physics, and is designed, principally, for students who intend following engineering courses.

First Term. (Six hours per week.) (*a*) Simple measurements and design of measuring instruments. (*b*) Elementary graphical statics. (*c*) Forces, moments and work. (*d*) Simple machines and friction (determining mechanical advantages, loss, efficiency, law, etc).

Second Term. (Six hours per week.) (*e*) Pendulum and gravity. (*f*) Elasticity. (*g*) Liquids. (*h*) Density and specific gravity.

Third Term. (Six hours per week.) (*i*) Gases. (*j*) Heat. (*k*) Sound. (*l*) Light.

RECORD-BOOK.

About 100 experiments are selected and are quantitative in nature. Results of experiments are to be entered, in tabular form, together with diagrams, deductions, etc., in a laboratory record book which contains a synopsis of the experiment and deductive questions. At the close of each week this book is criticised and graded according to its accuracy and neatness.

REFERENCE-BOOKS.

Ames & Bliss' Laboratory Manual, Stewart & Gee's Practical Physics, Nichol's Laboratory Manual, Magnus' Mechanics, Glazebrook's Mechanics and Statics.

JUNIOR COURSE.

This is a more advanced course in general physics required of all candidates for a degree.

First Term. (Three recitations per week.) Mechanics of solids, liquids and gases.

Second Term. (Three recitations per week.) Static and dynamic electricity and magnetism.

Third Term. (Three recitations per week.) Sound and heat.

TEXT-BOOK.

Ames' Theory of Physics.

SENIOR COURSE.

First Term. (Two recitations per week.) Light and optical instruments.

Second and Third Terms. (Two recitations per week.) Astronomy.

TEXT-BOOKS.

Ames' Theory of Physics, Young's Astronomy.

POST-GRADUATE COURSE.

Instruction will be given in either analytical mechanics, or selected portions of mathematical physics.

Prerequisite.—Differential and integral caluculus. The department is well equipped with apparatus for illustrating the lectures.

MATHEMATICS.

PROFESSOR SMITH.

ASSOCIATE PROFESSOR CRENSHAW.

INSTRUCTOR PATRICK.

The subjects taught in the different classes in this department are as follows:

FRESHMAN CLASS. Algebra through quadratic equations and series, geometry (seven books Wentworth), original solutions of exercises.

SOPHOMORE CLASS. Algebra completed, solid geometry, plane and spherical trigonometry, surveying, mensuration.

JUNIOR CLASS. Analyticial geometry, descriptive geometry.

SENIOR CLASS. Differential and integral calculus.

Two objects are sought to be attained: First, mental discipline; second, a thorough knowledge of the principles of pure mathematics and their practical applications.

Theoretical and practical instruction is given to the sophomore class in farm, town and government land surveying, dividing land, mapping, plotting and computing areas, etc.; also in the theory, adjustment and use of instruments.

The class, in sections of six or eight, devote three afternoons a week during the second and third terms to field practice.

Mensuration includes an extended course in measurements of heights and distances, plane, rectilinear, and curvilinear figures, surfaces and volumes.

The completion of this course, common to all students, lays the foundation for the pure and applied mathematics of the mechanical and engineering courses. Analytical geometry, descriptive geometry, and calculus are pursued in the engineering courses. Especial attention is given to their practical applications.

During the entire course, instruction in text-books is supplemented by lectures. Solutions of original practical problems are required of the student, to make him familiar with the application of the principles and formulas.

BOTANICAL LABORATORY.

TEXT-BOOKS.

Wentworth's Algebra, Wentworth's Geometry, Wentworth's Trigonometry, Davie's Surveying, Wentworth's Analytical Geometry, Faunce's Descriptive Geometry, Taylor's Calculus, Johnson's Differential Equations, Osborne's Problems, Peck's Determinants.

GEOLOGY AND BOTANY.

PROFESSOR MELL.

Geology.—This subject is studied in the senior class, and extends through the entire session. Special attention is given to the geology of Alabama, and many illustrations are drawn from the coal and iron fields and other natural deposits of minerals in the State. Mineral springs, the origin of ore deposits, and the geological relations of soils are carefully studied.

There is also a course of advanced work in practical geology for post-graduate students. This subject is pursued by applicants for the degrees of master of science and mining engineer.

The junior class in civil engineering studies mineralogy through the entire season. This work consists of a thorough course in blow-pipe analysis of the ordinary minerals, and lectures upon crystallography, with instruction how to measure crystals and determine the physical constants of minerals. An effort is made to familiarize the student with all the economic ores and the rocks entering into the composition of soils.

Botany.—The students of the sophomore class begin the study of botany the first of March, and continue it through the remainder of the session. Careful experiments are conducted in the lecture room explaining the formation and germination of seed, the growth into the mature plant, and the various functions performed by the plant in its development. Each student is required to keep careful notes illustrated with drawings of the various organs of the plant under examination. A limited amount of work is done in classification and nomenclature.

In the junior class, in the course of chemistry and agriculture, two terms are devoted to systematic and structural botany, and to advanced laboratory work with the microscope in the preparations of specimens showing plant structure; this work is sufficient to familiarize the students with the methods of plant building and cellular organization. Excellent microscopes of the most improved patterns, and all necessary chemicals and apparatus for preparing and mounting vegetable tissues, are used by the students.

The third term is devoted to the study of the physiology of plants in order to understand the functions of the various organs after completion of the work in the histological laboratory.

FACILITIES FOR WORK.

Geology.—The department is equipped with models of Mount Shasta, the earthquake of 1887 in Japan, glass crystals of teaching crystallography; charts and maps of the geology of America and Europe; Colt's lantern complete with oil, oxy-hydrogen and automatic electric lamps; a large assortment of fine lantern slides representing geological formations in this country and abroad; well equipped mineralogical laboratory for thirty students, supplied with a collection of representative minerals; and models of crystals.

Botany.—The facilities for teaching this subject are as follows: Auzoux's clastic models of seeds and flowers; a large collection of pressed plants of Alabama and other sections mounted and catalogued. There is also a laboratory for practical work in botany equipped with slate-topped tables for twenty students; dissecting and compound microscopes of Zeiss, Leitz, and Bausch & Lomb; projection microscopic apparatus; microtomes by King and Bausch

& Lomb; all the necessary glassware and smaller dissecting instruments required in a well equipped laboratory. The Zeiss compound microscope used by the professor for experiment work in connection with the station is supplied with Abbe's illuminating apparatus, slide changers, Abbe's camera lucida, polarizers, apochromatic objectives (16mm, 8 mm, 4mm, and homogeneous immersion), oculars (2, 3, 8, 12, 18), and photographic eye-piece with micrometer. This laboratory is well lighted with gas and electricity and with a good exposure for ample sunlight.

In connection with the department there is a photographic dark-room and an excellent photographic outfit, consisting of cameras varying in size from 4x5 to 6½x8½ inches; Bausch & Lomb's professional photo-micro camera extending to eight feet; Zeiss's anastigmat photographic lens, 6½x8½, fitted with Bausch & Lomb's diaphragm shutter and Zeiss's wide angle lens, 6½x8½, all mounted in aluminum; Clark's lens fitted with diaphragm shutter; Darlot lens, 4x5; the accessory apparatus and chemicals required for first-class work in photography.

The students have access to the botanical garden where experiments in grass culture and many other plants of interest to the farmer are conducted by the professor.

TEXT-BOOKS.

LeConte's Geology, Tarr's Economic Geology, Dana's Mineralogy, Crosby's Tables for Determining Minerals, Bergen's Botany, Mell's Laboratory Guide, and notes of lectures.

CIVIL ENGINEERING AND DRAWING.

PROFESSOR LANE.

ASSISTANT MARTIN.

The special studies in this department begin in the junior class, and require a good knowledge of algebra, geometry, trigonometry, and analytical mechanics. They are as follows:

Junior Class—Simple, compound, reversed and parabolical curves, turnouts and crossings, leveling, gradients, setting slope stakes, etc.

Special attention will be paid in this class to the location, construction, drainage and maintenance of country roads; and the various pavements and foundations for the same.

Senior Class—Classification, appearances, defects, seasoning, durability and preservation of timber; classification and description of natural building stones; bricks and concretes; cast and wrought iron, steel and other metals; limes, cements, mortars and their manufacture; paints and other preservatives; classification of strains and a general mathematical discussion of same; joints and fastenings; solid and open built beams; classification, construction and mechanics of masonry; foundations on land and in water; bridges and roofs of different kinds, their construction and strains determined mathematically and graphically; common roads, their coverings, and location, and construction of railroads; navigable, irrigation and drainage canals; river and seacoast improvements.

Theory and practice are combined in both classes.

TEXT-BOOKS.

Junior Class—Henck's Field Book for Railway Engineers and Byrne's Highway Construction.

Senior Class—Wheeler's Civil Engineering and Von Ott's Graphic Statics.

DRAWING.

All of the students of the freshman and sophomore classes are required to take drawing; but only the students in civil engineering in the junior and senior classes.

The freshman class is taught linear and free-hand drawing. The sophomore class is instructed in the principles of orthographic and isometric projections, shades, shadows, prespective and tinting. In the junior class the instruction embraces a more extended course in orthographic and isometric drawing, perspective, shades and tinting; also sketches of tools and machines, plans and elevations and cross-sections of buildings, and blue-prints. The senior class makes topographical drawings and drawings of machines, roofs, bridges, etc., to different scales, and blue prints. Plans, profiles and sections of railroad surveys complete the instruction in this department.

TEXT-BOOKS.

Freshman Class.—Kitchener's Geometrical Note Book, Thorne's Junior Course in Mechanical Drawing, and Davidson's Model Drawing.

Sophomore Class.—Davidson's Projections, Davidson's Practical Perspective, Keuffel & Esser's Alphabet.

Junior Class.—Davidson's Building Construction, Davidson's Drawing for Mechanics and Engineers, plates belonging to the college, Keuffel & Esser's Alphabet.

Senior Class.—French, English and American plates belonging to the College, Keuffel & Esser's Alphabet.

ENGLISH AND POLITICAL ECONOMY.

PROFESSOR THACH.
PROFESSOR WIATT.
ASSISTANT SCROGGS.
ASSISTANT HAROLD.

OBJECTS AND METHODS.

In this department the students pursue a systematic course in the English language and literature.

Language is the avenue of approach to all knowledge; the interpretation of words is the fundamental process in education of whatsoever kind. A full course in English is, therefore, considered especially important in the technical courses of study that do not include the ancient classics. Accordingly, the course of English is continued throughout the four years of the college curriculum, three hours a week, and is made obligatory upon all students, with the exception of those pursuing the first two years of the course in Latin. In this extended drill in the grammar and literature of the English language, the endeavor is made to afford a training somewhat equivalent to the ordinary course in the classical languages.

In view of the ill preparation in languages, especially in their mother tongue, exhibited by many of the candidates for admission to the freshman class, it is deemed advisable, for the sake of honest work, to devote a portion of the first year to grounding such students in the principles of grammar.

Especial attention is given to the study of the writings themselves of leading English authors, since direct contact with literature is considered more profitable than information merely *about* literature.

All students before classed as regular in any course leading to a degree must conform to all the requirements in English for admission as set forth on page 41.

For requirements as to thesis and as to proficiency in English for certificates and degrees see pages 49 and 109.

Declamation and themes (or orations) are required of *all regular* students. For details see below.

COURSES OF STUDY.

Freshman Class—Five hours a week; study of grammar, the principles of special and general composition, with frequent brief papers illustrating the laws studied; study of American authors; Irving, Hawthorne, Holmes, Poe, Bryant, Longfellow.

Swinton's English Grammar, Lockwood's Rhetoric, Kellogg & Reed's English Language.

Sophomore Class.—Three hours a week; study of style, analysis of selections of prose and poetry; frequent essays on historic and literary themes.

G. R. Carpenter's Rhetoric, Genung's Rhetorical Analysis, Syle's From Milton to Tennyson.

Junior Class.—Three hours a week; lectures on the history of English literature, critical study of English classics, essays.

Pancoast's History of English Literature; Pancoast's Standard English Poems, Macaulay, Carlyle, DeQuincey, etc.

Senior Class.—Two hours a week, first term. Principles of Criticism, Shakepeare's Julius Cæsar, Hamlet, etc., Dowden's Shakespeare, etc.

THEMES AND ORATIONS.

Theory without practice is as fruitless in the study of English as in any other department of study. Practical work is indispensable to the successful teaching of English.

Besides numerous brief papers illustrative of the subject matter of the text-books, set themes or orations are *required of all students*:—For the freshman class, *ten* themes a year; *ten* for the sophomore; for the senior and junior classes, *three* orations each.

DECLAMATION.

The old practice of committing pieces to memory for "speaking" is cultivated as a means, both of training in the art of thinking on the feet, and of storing the mind with the diction of finished specimens of English style.

The sophomore class is heard weekly throughout the year in sections of ten, once for an hour and a half in rehearsal, afterwards in the study-hall before the body of students.

The senior and junior classes also deliver their orations in public.

PHILOSOPHY AND POLITICAL ECONOMY.

The senior class pursues the study of intellectual science, twice a week, through the year; and political economy twice a week, during the last two terms. The instruction in this department is by lectures in combination with text-books.

Intellectual Science.—Psychology defined. Value in relation to moral culture, education and Natural Sciences. The relation of the soul to matter. The arguments of the Materialist. Counter arguments. The Faculties of the Soul. The nature of Consciousness. Sense Perception. Fancy. Imagination. Nature of Conceptions.

Language. Judgment. Reasoning. Deduction. Induction, etc. *Porter's Intellectual Science.*

Political Economy.—Value; production of wealth; land; labor; capital; division of labor; distribution of wealth; wages; trades-union; tariff; education, etc. *Lectures by Professor. Ely's Outlines of Economics.*

A Post-graduate course has also been established in English. The following courses have been given:

(1) *Shakespeare*—Hamlet, Othello, Macbeth, Merchant of Venice, As You Like It, Henry IV., Part I., Richard III., King John.

(2) *Dryden—Poetical Works* (Christie); *Essay of Dramatic Poesy* (Thomas Arnold); *Essay on Satire, etc.*, (Yonge); Saintsbury's *Life of Dryden.*

Pope—Poetical Works (Ward); *Satires* (Pattison); Stephen's *Life of Pope*, Gosse's *From Shakespeare to Pope* and *18th Century of Economics.*

(3) *English Literature of the Eighteenth Century;* Addison, Pope, Gray, Goldsmith, Burns, Cowper, Burke.

(4) *American Literature*: Longfellow, Lowell, Poe.

(5) *The Rise and Development of the English Essay*: Bacon, Addison, Steele, Swift, Johnson, Goldsmith, Macaulay, DeQuincey, Lamb, Carlyle.

CHEMISTRY.

ACTING PROFESSOR MURRILL.

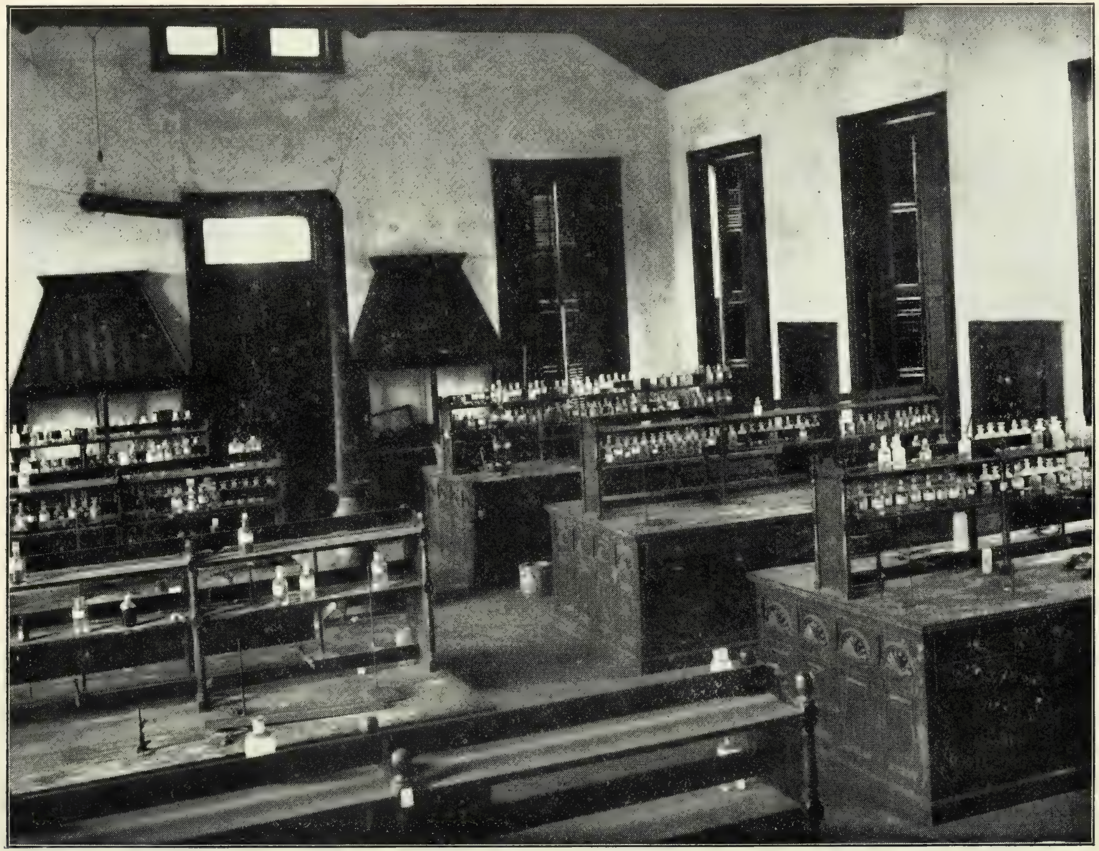
INSTRUCTOR HARE.

INSTRUCTOR HOUGHTON.

Instruction in this department embraces—

1. A course of lectures in general chemistry.
2. A course of lectures in industrial chemistry.
3. A course of lectures in metallurgy.
4. A course of lectures in agricultural chemistry.
5. Systematic laboratory work in connection with each course of lectures, for the practice of chemical analysis and chemical research.

1. Course in general chemistry: This consists of a



CHEMICAL LABORATORY, INTERIOR.

series of lectures (three per week) extending throughout the entire session, and includes a discussion of the fundamental principles of chemical philosophy in connection with the history, preparation, properties and compounds of the metallic and non-metallic elements, with the main facts and principles of organic chemistry. In this course the more common applications of chemistry to the arts and manufactures are discussed. The apparatus used for experimental illustration is extensive, containing the newest and approved improvements necessary for presenting the subject in the most attractive and instructive form.

REFERENCE BOOKS.

Roscoe & Schorlemmer, Fownes, Frankland, Remsen. Cooke's Chemical Philosophy, Chemical Journals.

2. Lectures in industrial chemistry (three per week) extend throughtout the session, and include a discussion in detail of the processes and chemical principles involved in the most important applications of chemistry in the arts and manufactures to the preparation of materials for food and drink, for clothing, shelter, illumination, cleansing, purifying, writing, printing, etc.

These lectures are amply illustrated by means of suitable specimens of raw materials and manufactured products, together with models and diagrams.

REFERENCE BOOKS.

Wagner's Chemical Technology, Muspratt's Chemistry as applied to Arts and Manufacturing, Ure's Dictionary, Watt's Dictionary, Richardson and Watt's Chemical Technology, Percy's Metallurgy, Sadtler's Industrial Organic Chemistry.

3. Course in metallurgy: This consists of lectures and recitations (two per week, during first term) upon the more important metals, such as iron and steel, copper, lead, tin, silver, mercury, zinc, etc. It includes a

discussion of the physical and chemical properties of the metals and of their alloys, the ores and their treatment, and the processes by which the metals are obtained from the ores, with chemical reactions involved.

4. Course in agricultural chemistry: This consists of lectures on chemistry in its application to agriculture (two per week, during second and third terms), and includes a thorough discussion of the origin, composition and classifiation of soils, the composition and growth of plants, the sources of plant food and how obtained, the improvement of soils, the manufacture and use of fertilizers, the chemical principles involved in the rotation of crops, the feeding of live stock, and the various operations carried on by the intelligent and successful agriculturist.

REFERENCE BOOKS.

Johnson's How Crops Grow, and How Crops Feed, Lupton's Elementary Principles of Scientific Agriculture, Johnson's and Cameron's Elements of Agricultural Chemistry, Storer's Agriculture in Relation to Chemistry, scientific journals, reports of the United States Department of Agriculture, and the bulletins and reports of the various home and foreign agricultural departments and stations.

5. The course of systematic laboratory work: This course of practical work in the laboratory is carried on in connection with each course of lectures. In the junior year the work embraces the practical operations of chemical synthesis and analysis and includes the preparation of the non-metallic elements and their most important compounds, in addition to a systematic study of the metals and their compounds, their separation and identification. In the senior year students pursue work in quantitative analysis, including analysis of fertilizers, soils, coal, iron ore, iron and steel, sugars and sugar products, feed stuffs, minerals, mineral waters.

etc., being varied somewhat to suit the individual object of the student.

The laboratories, which are open from 9 A. M. to 5 P. M., during six days in the week, are amply supplied with everything necessary for instruction in chemical manipulation in qualitative and quantitative anaylsis, and in the method of prosecuting chemical researches. Unusual facilities are offered to students who wish to devote their time to the special study of practical chemistry.

Each student on entering the chemical laboratory is furnished with a work table, a set of re-agent bottles and the common reagents and apparatus used in qualitative or quantitative analysis. At the close of the session he will be credited with such articles as may be returned in good order; the value of those which have been injured or destroyed will be deducted from his contingent fee.

In addition to the analytical work above described it is designed to give during the session a short course in electro-plating. Practical instruction in the electro-deposition of nickel, silver, gold,etc., upon other metals will be given, and, in addition, the application of electrolysis to chemical analysis will be studied both theoretically and practically.

TEXT-BOOKS.

In qualitative analysis.—Jones, Sellers, Fresenius, Plattner.

In quantitative analysis.—Fresenius, Cairns, Sutton, Rose, Blair's Analysis of Iron and Steel, Bunsen, Rickett's Notes on Assaying, Mitchell's Manual of Practical Assaying.

In agricultural chemical analysis—Official methods of the Association of Agricultural Chemists, Wiley's Principles and Practice of Agricultural Analysis.

CHEMICAL LABORATORY.

[For description of the building see page 16.]

The chemical apparatus recently purchased for the laboratory consists of a full supply of the most approved instruments for practical work and investigation. The building is supplied with water and gas and every appliance required to meet the demands of modern scientific instruction and research. In addition to the apparatus usually supplied to first-class laboratories, there have been imported a new and improved Schmidt and Hensch's polariscope, four short-arm Becker balances of latest pattern, Bunsen spectroscope, Abbe refractometer and other instruments for delicate and accurate work.

HISTORY AND LATIN.

PROFESSOR PETRIE.

ASSISTANT BOYD.

HISTORY.

In this department the aim is not so much to memorize facts as to understand them. Strong emphasis is laid on the fact that history is not a succession of isolated facts, but a progressive whole, each event being at once the cause and the effect of other events. The students are taught to investigate the growth of ideas and institutions, the rise and progress of great historical movements and the reciprocal influences of men and circumstances. Frequent use is made of diagrams, photographs, charts and maps, with which the department is well equipped. Instruction is given by text-books, lectures and class discussion, but a constant effort is made to stimulate to wider reading and research in the library.

In the freshman class, the subjects studied are the United States, Alabama, and England. The first term (two hours per week) is devoted to the history and government of the United States; the second term (two hours per week) to Alabama, and the third term (three hours per week) to the history of England.

In the sophomore class (three hours per week until March) the subject studied is general European history.

HISTORICAL LABORATORY.

In the junior and senior classes opportunity for special work in United States history is given those students of the General Course who elect it as laboratory work, and to any others who are properly qualified. The chief object kept in view is training in historical research and in the formation of independent but careful opinions based on the original sources of information, as well as on the standard authorities. Emphasis is laid on the importance of securing proper material for investigation and every incentive is given to the collection and use of new documents, papers and letters illustrative of Southern, and especially Alabama history.

The method of work is as follows: Informal lectures are given on important and suggestive points, as: The causes of the Revolution; the Constitutional Convention; the War of 1812; the Missouri Compromise; the Monroe Doctrine; Texas and Mexico; the Compromise of 1850; the Kansas Struggle; the Dred Scott Decision; Secession. After each lecture topics connected with it are assigned to the students with an outline of the points to be investigated. They report their results to the class and a discussion follows. The final results are collected by each student according to his own judgment in his note-book, which is then passed in to the professor for correction and suggestion.

Graduate students are expected to take part in the junior and senior discussions and in addition will meet with the professor for conference in regard to their work. Those who take history as their major subject are expected to devote a large part of their time to original research upon some topic on which they can consult the original sources of information. They are also required to pursue a prescribed course of reading as indicated below:

TEXT-BOOKS.

Freshman Class.—Cooper, Estill & Lemmon's History of the United States, Brown's History of Alabama, Montgomery's English History.

Sophomore Class.—Myers's General History.

Junior and Senior Classes.—Moore's American Congress.

Graduate Course.—Wilson's Division and Reunion, selected parts of Stephen's Constitutional History, and of Rhodes's History of the United States. Fiske's Critical Period, Lodge's Hamilton, Morse's Jefferson, Schurz's Clay, Lodge's Webster, Sumner's Andrew Jackson.

LATIN.

The objects kept in view in this department are: An accurate knowledge of the forms and syntax; a familiarity with Latin words, their etymology and their English derivatives; an appreciation of Latin literature and an intelligent conception of Roman history and civilization, both in themselves and in their effect on the modern world.

A systematic course of instruction is given in the forms and syntax. These are taught both deductively from a grammar and inductively from the text read. Translation is constantly practiced, sometimes at sight, sometimes after being assigned for preparation. English passages based on the author read or illustrative of special constructions are put in Latin, both orally and in writing. Great emphasis is laid on the etymology of the words in the text read.

In connection with every author studied in class a course of reading in English is prescribed descriptive of his life work and times. The historical setting and the literary value of his writings are carefully discussed and frequent comparisons are made with modern authors.

For the benefit of students who do not study the Latin language a series of popular lectures will be given upon the great Latin writers. Especial emphasis is laid on proficiency in writing Latin exercises and in translating Latin prose at sight.

TEXT-BOOKS.

Freshman Class.—Allen & Greenough's Grammar, Exercises, Nepos, Sallust or equivalent.

Sophomore Class.—Cicero, Allen & Greenough's Grammar Bennett's Latin Composition.

Junior Class—Virgil, Horace, Allen & Greenough's Grammar, Exercises, Guerber's Mythology, Preston & Dodge's Private Life of the Romans.

Senior Class.—Livy, Tacitus, Wilkins's Latin Literature, Exercises, History of Rome.

MODERN LANGUAGES.

PROFESSOR WIATT.

The chief aim in this department is to give the student a thorough and accurate knowledge of the elementary principles of the subjects taught, and to enable him to read with facility the ordinary French and German at sight. To train the ear, acquire a correct pronunciation and some facility in speaking, all recitations are supplemented, as far as practicable, by oral exercises in the languages themselves.

The following regular courses are given in French and German.

French—First Year. Three recitations a week. During this year the principal object is to acquire a knowledge of the elements of grammar and a correct pronunciation, together with a facility in translating ordinary French. Reading is begun at an early stage, and the principles of grammar are illustrated and impressed by frequent exercises in rendering English into French.

Second Year: Three recitations a week. During this year almost the same line of work is pursued as that begun the previous year. More difficult and varied French is read, and instruction is given upon the laws of grammar, the construction of the language, and the history of the literature. Special attention is given to sight translation.

German—Two Years: Three recitations a week the first year, three a week the second year. In this course the aim and the methods are similar to those in French.

The students in this department will meet the professor twice per week, from 4 to 5 p. m. during the *first term,* and the *third term,* for exercises in conversation in French and in German.

TEXT-BOOKS.

FRENCH—*First Year:* Edgren's Grammar and Locard's Supplementary Exercises. Super's Reader.

Second Year.—Feuillet's Le Roman d'un Jeune Homme Pauvre, Racine's Esther, Corneille's Le Menteur, Molière's Le Bourgeois Gentilhomme, selected plays, Whitney's Grammar, original exercises.

GERMAN—*First Year:* Joynes-Meissner's Grammar and Reader.

Second Year: Der Bibliothekar, Wilhelm Tell, Whitney's Grammar and Exercises, selected plays, original exercises.

GRADUATE COURSE.

This course is offered for the benefit of those students who wish to pursue the study of these subjects beyond the scope to which a two-year course necessarily limits them. Here, in addition to the authors studied in the lecture room, a wide and extensive reading of authors and literature is prescribed.

ELECTRICAL ENGINEERING.

PROFESSOR DUNSTAN.

ASSISTANT JEPSON.

JUNIOR YEAR.

The students in this course study English, French or German, Physics, Mathematics, etc., as prescribed for the course of Civil Engineering in the junior and senior years and in addition thereto prosecute their studies in electricity and mechanics as herein prescribed.

Instruction is given by lectures and recitations.

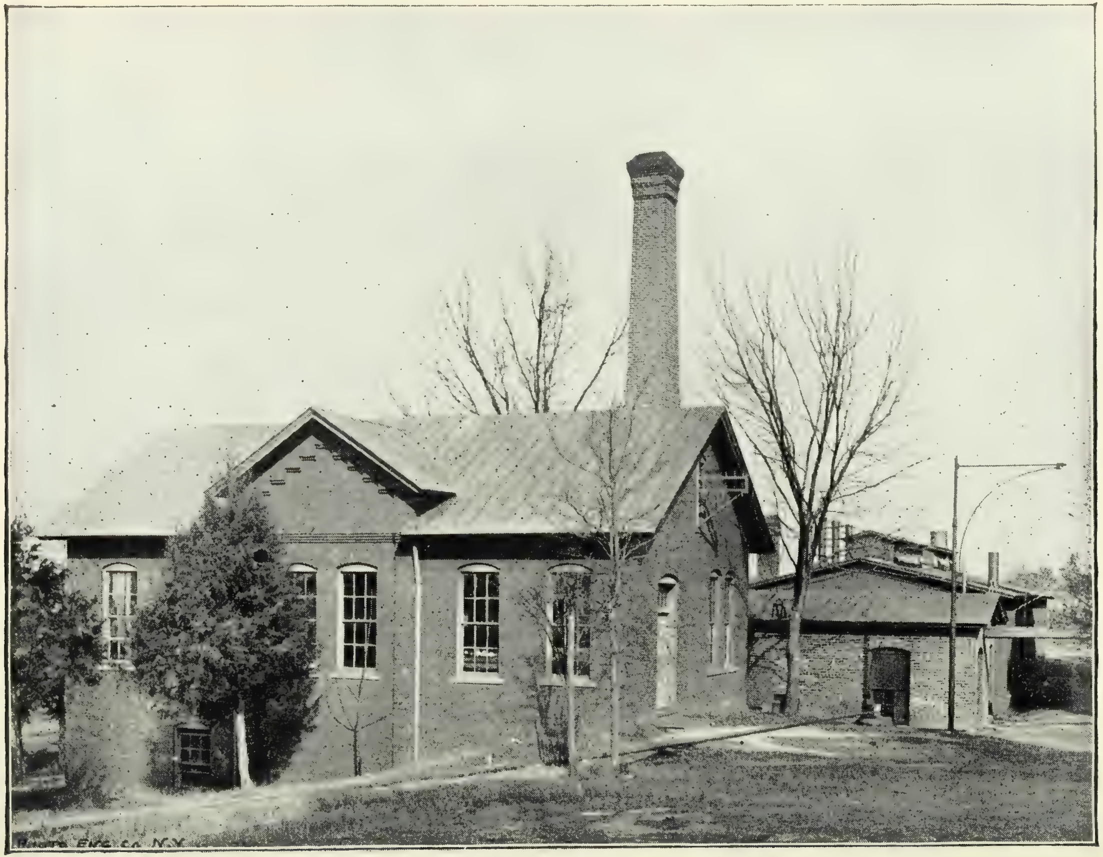
First Term: Four hours per week are devoted to the study of the principles of electricity and magnetism, with especial reference to their industrial applications. The subject of electrical measurements is also treated in detail.

Second Term: Incandescent lighting, four hours per week.

Third Term: Arc lighting and wiring, four hours per week.

TEXT-BOOKS.

Ayrton's Practical Electricity. Houston and Kennelly's Incandescent and Arc Lighting. Cushing's Standard Wiring.



ELECTRICAL BUILDING.

LABORATORY WORK.—Four hours per week are given to work in the laboratory. This includes management of batteries, construction of instruments, electro-plating, electrical measurements, verification of the principles upon which the measurements of current, electromotive force and resistance are based, etc.

SENIOR YEAR.

First Term: Dynamo electric machinery, five hours per week.

Second Term: Alternating currents and alternating current machinery.

Third Term: Polyphase machinery and power transmission, five hours per week.

TEXT-BOOKS.

Dynamo Electric Machinery, Thompson. Alternating Currents, Franklin and Williamson. Standard Polyphase Apparatus, Oudin.

LABORATORY WORK.—Six hours per week are devoted to practical laboratory work, electrical measurements, relation of electric currents to heat and mechanical work, care and tests of dynamo and motors, calibration of voltmeters, ammeters and watt-meters, electric lighting, management and care of accumulators, energy consumed in lamps, adjustment and care of arc lamps, proper wiring of buildings, the application of electricity to street railways, magnetic measurements, tests of transformers and alternating motors, etc.

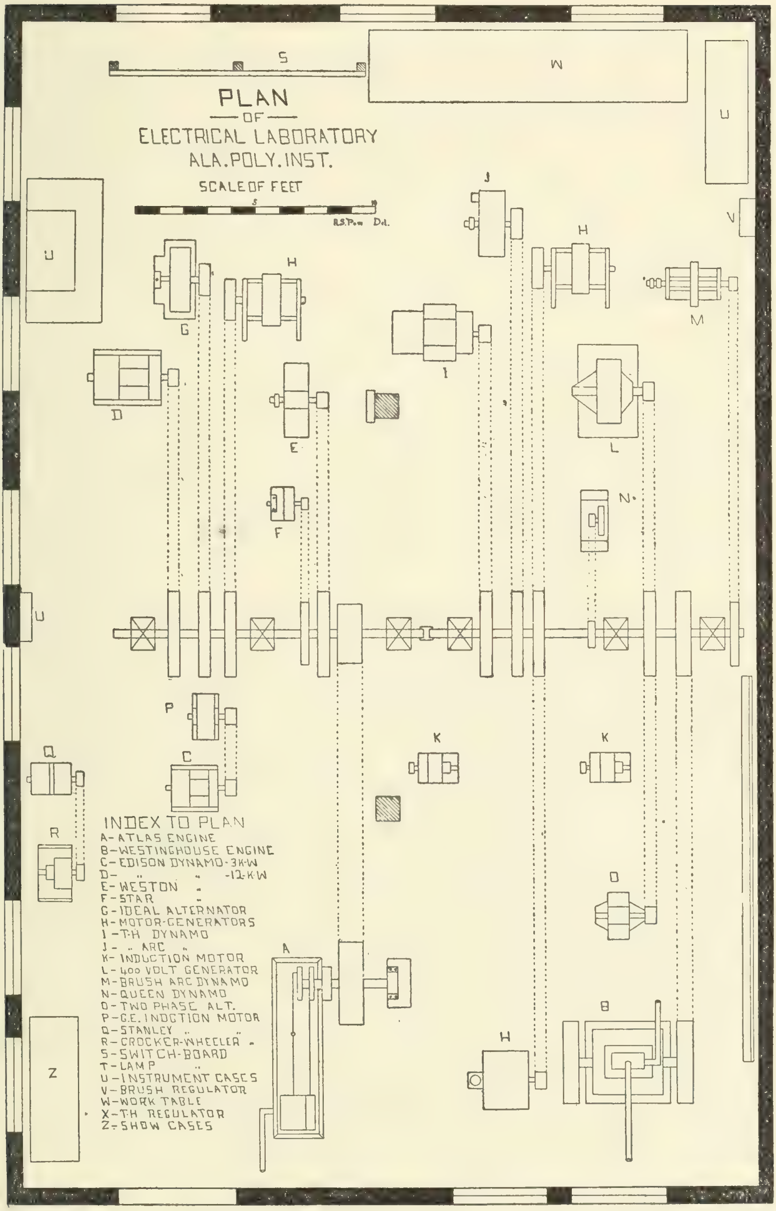
DRAWING AND CONSTRUCTION.—Two hours per week in the senior year are devoted to the design and construction of electrical machinery.

Encouragement is offered to advanced students for conducting original investigations, and opportunity is taken to stimulate a spirit of scientific inquiry. Courses of reading are suggested to such students in connection with their experimental work.

In addition to the usual laboratory work, senior students spend a portion of their time in the boiler room, learning the management and care of the steam plant, and in turn take charge of the lighting plant, thus becoming familiar with running the engines and dynamos.

POST GRADUATE COURSE.—To graduate students more advanced courses in the theory and applications of alternating currents and alternating current machinery are given. The courses will be varied slightly from year to year to suit the needs of those taking the course.

In connection with this work suitable laboratory work will be given.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F-STAR "
G-IDEAL ALTERNATOR
H-MOTOR-GENERATORS
I-T-H DYNAMO
J- " ARC "
K-INDUCTION MOTOR
L-400 VOLT GENERATOR
M-BRUSH ARC DYNAMO
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O-TWO PHASE ALT.
P-G.E. INDCTION MOTOR
Q-STANLEY " "
R-CROCKER-WHEELER "
S-SWITCH-BOARD
T-LAMP "
U-INSTRUMENT CASES
V-BRUSH REGULATOR
W-WORK TABLE
X-T-H REGULATOR
Z-SHOW CASES

EQUIPMENT.

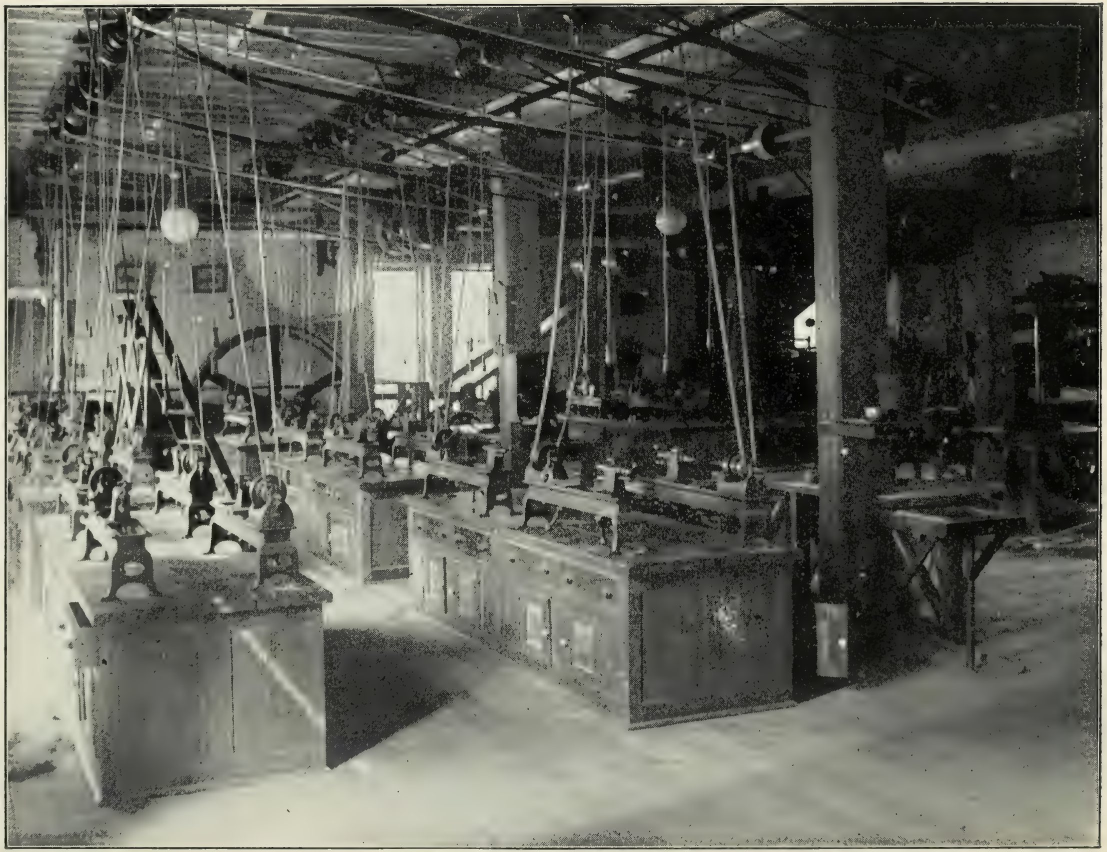
The laboratory is well supplied with batteries, storage and primary, telephones, plating apparatus and similar minor apparatus. Among the instruments of precision may be noted Kelvin ampere balances, graded current and potential galvanometers alternating and direct current ammeters and voltmeters of various ranges, from Weston, Queen, Jewell, Hartmann & Braun, Despretz, Fein, General Electric Company and other domestic and foreign makers. There are also direct reading and recording watt meters, dynamometers reading from .0001 ampere to 100 amperes, a number of resistance boxes and bridges, condensers, keys, galvanometers of various types, magnetic testing apparatus, portable and fixed, photometers, high potential testing apparatus, portable testing set, cradle dynamometer, a special instrument for comparing inductances, self and mutual, and capacities.

This department, being provided with Lord Kelvin's standard electrical instruments for exact measurements, will calibrate free of expense, any ammeter or voltmeter that may be sent to the College.

In the dynamo room the following are installed: One Weston 150 volt, 20 ampere dynamo, with rheostat; one Brush 6 arc light dynamo, with regulator and six lamps; one Ideal 5 kilo-watt three phase alternator; one Thompson-Houston 9 arc light dynamo with lamps; one Edison compound wound 12 kilo-watt generator; a Thompson-Houston 110 volt, 75 ampere generator; two street car motors used as either direct or alternating current generators or motors; two polyphase induction motors; one General Electric 5 horse-power induction motor, mounted on cradle dynamometer; General Electric 20 horse-power motor; one Stanley induction motor with condensers; Edison 3½ kilo-watt generator; a Crocker-Wheeler one horse-power motor and rheostat, and one bi-phase alternator, and 500 volt generator, made by special students, furnish current to laboratory and light up the different buildings. A lamp board with a capacity of 210 lamps has been installed and is used for testing purposes.

The dynamos occupy a separate brick building 50x32 feet, and are operated by a 35-horse power Westinghouse vertical engine, and a 25-horse power Atlas engine.

An electric motor, made by students, supplied with current from a generator at a distance of 3,000 feet, operates a gin, gin press,



WOOD ROOM.

ensilage cutter and feed cutter at the experiment station farm. This motor not only subserves a useful purpose in the operation of these machines, but is an excellent illustration of the electric transmission of power.

MECHANICAL ENGINEERING AND MECHANIC ARTS.

PROFESSOR WILMORE.

ASSOCIATE PROFESSOR CRENSHAW.

ASSISTANT PROFESSOR FULLAN.

INSTRUCTOR TRAMMELL.

ASSISTANT HILL.

The course in manual training covers three years, as follows: First year, wood-working—carpentry and turning; second year, pattern making and foundry and forge work—molding, casting and smithing; third year, machine shop—chipping and filing and machine work in metals.

This course is obligatory upon the students of the two lower classes. For satisfactory reasons a student may be excused from this laboratory work by the Faculty.

The full work of each class is six hours per week, in three exercises of two hours each.

The power for running the apparatus in this department is derived from a twenty-five horse-power Harris-Corliss automatic engine. A steam pump and a heater for the feed-water form a part of the steam apparatus. For the steam plant a substantial brick boiler-house and chimney have been erected, and a 100-horse power Heine boiler installed.

The equipment for the wood-working shops comprise the following: 30 wood-working benches, each with complete set of carpenter's tools; 24 turning-lathes 10-inch swing each with complete set of tools; 1 double circular saw; 1 band saw; 1 board-planing machine; 1 jointer; 1 pattern-maker's lathe 16-inch swing; 1 36-inch grindstone. The tool room is supplied with a variety of extra hand tools for special work and in addition to the regular carpenters' tools in the benches each student is supplied with a set of chisels and plane irons with a locker to keep them in and is held responsible for their care and condition.

The equipment for the foundry consists of molding benches for 18 students, each supplied with a complete set of molder's tools; a 23-inch Colliau cupola, with all modern improvements, capable of melting 2,000 pounds of iron per hour; a brass furnace in which can be melted 100 pounds of brass at a heat, with a set of crucible tongs, etc. Also a full supply of ladles, large and small molding flasks, a foundry crane, special tools, etc.

The forge shop equipment consists of 24 down draft forges of new pattern each with a set of Smith's tools, anvil etc. The blast for all the forges is supplied with a No. 3 Sturtevant steel pressure blower (which also furnishes blast for the foundry cupola), and a 60-inch underground exhaust blower draws the smoke from the fires into the smoke flues and forces it out through the chimney.

The machine department occupies a brick building 30x50 feet, and is equipped with eight engine-lathes (screw-cutting 14-inch swing, six foot bed; 2 engine lathes, 16 inch swing (one with taper attachment); 1 engine lathe, 18-inch swing, with compound rest and taper attachment; 1 speed-lathe, 10-inch swing; 1 20-inch drill press (power feed); 1 10-inch sensitive drill; 1 15-inch shaper; 1 22-inch x22-inchx5 feet planer; 1 universal milling machine, 1 corundum tool grinder (14-inch wheel); 1 bench grinder; 1 post drill press; 1 Brown and Sharpe universal grinding machine; 1 power hack saw. A part of the room is set apart for vise work, chipping and filing; and benches for twelve students are provided, each with vise and set of files, chisels, hammers, etc. In the tool room is to be found a good supply of machinists' tools for general shop use, such as lathe and drill chucks, drills, reamers, taps, dies, gauges, files, cutting and measuring tools, and special appliances for machine work, with machine for grinding twist drills.

The nature of the work in each department is as follows:

FIRST YEAR.

I. A course of carpentry or hand work covering the first two terms. The lessons include instruction in the nature and use of tools, instruction and practice in shop drawing, elementary work with plane, saw, chisel, different kinds of joints, timber splices, cross joints, mortise and tenon, mitre and frame work, dovetail work, comprising different kinds of joints used in cabinet making, light cabinet work, examples in building, framing, roof-trusses, etc.

II. A course in turning, extending through the third term. The lessons comprise nature and use of lathe and tools, plain straight turning, caliper work to different diameters and lengths, simple and compound curves, screw plate and check work, hollow and spherical turning.

SECOND YEAR.

I. Course in forge work in iron and steel, occupying the first term. The lessons are arranged so that the students in making the series of objects, become familiar with the nature of the metals and the successive steps in working them by hand into simple and complex forms, as drawing, upsetting, bending, cutting, punching, welding, by various methods tool-forging, tempering, hardening, etc.

II. A course in pattern-making covering the second term. The work includes a variety of examples of whole and split patterns, core work, etc., giving the students familiarity with the use of patterns for general molding.

III. A course in molding and casting in iron and brass occupying the third term. The work consists for the most part of small articles, such as light machine parts, but a sufficient variety of forms are introduced for the student to acquire a good general and practical knowledge of the usual methods and appliances used in light foundry work. Most of the work is in greensand in two part flasks; core work is also given and some three part flask and some dry sand work is introduced.

The same patterns which have been previously made by students are used besides special patterns for occasional larger or more complicated work. Instruction and practice is given in working the cupola.

In connection with this second year work, a series of lectures is given on the metallurgy and working of the metals used in the industrial arts, cast and wrought iron, steel, brass, etc.

THIRD YEAR.

I. Course of chipping and filing, covering the first term. The lessons comprise work on cast and wrought iron; chipping to line on flat and curved surfaces, key-seating, etc., filing and finishing to line (straight and curved), surface filing and finishing, fitting, slotting, dovetail work, sawing, pin and screw filing, surface finishing with scraper, etc.

II. Machine work occupying the remainder of the year. The work includes cast and wrought iron; steel and brass; turning to various diameters and lengths, taper turning, facing with chuck and face plate, drilling—both in lathe and drill press—reaming, boring, screw-cutting in lathe and with taps and dies, planing, slotting, etc., with planer and shaper, milling various forms with the milling machine, including exercises in making taps, reamers, etc., fitting, grinding, polishing, etc.

Lectures are also given during the year on various subjects connected with machine work in metals; such as forms, construction and use of the various machines, cutting tools, gearing, gauges, screw threads, etc. During the last term some piece of construction work is given the classes.

All of the work is done from blue prints made by the class in drawing. In the construction work the student is given a blue print and the material for a certain part. He is then encouraged to study the work and plan the best method of doing it.

MECHANICAL ENGINEERING.

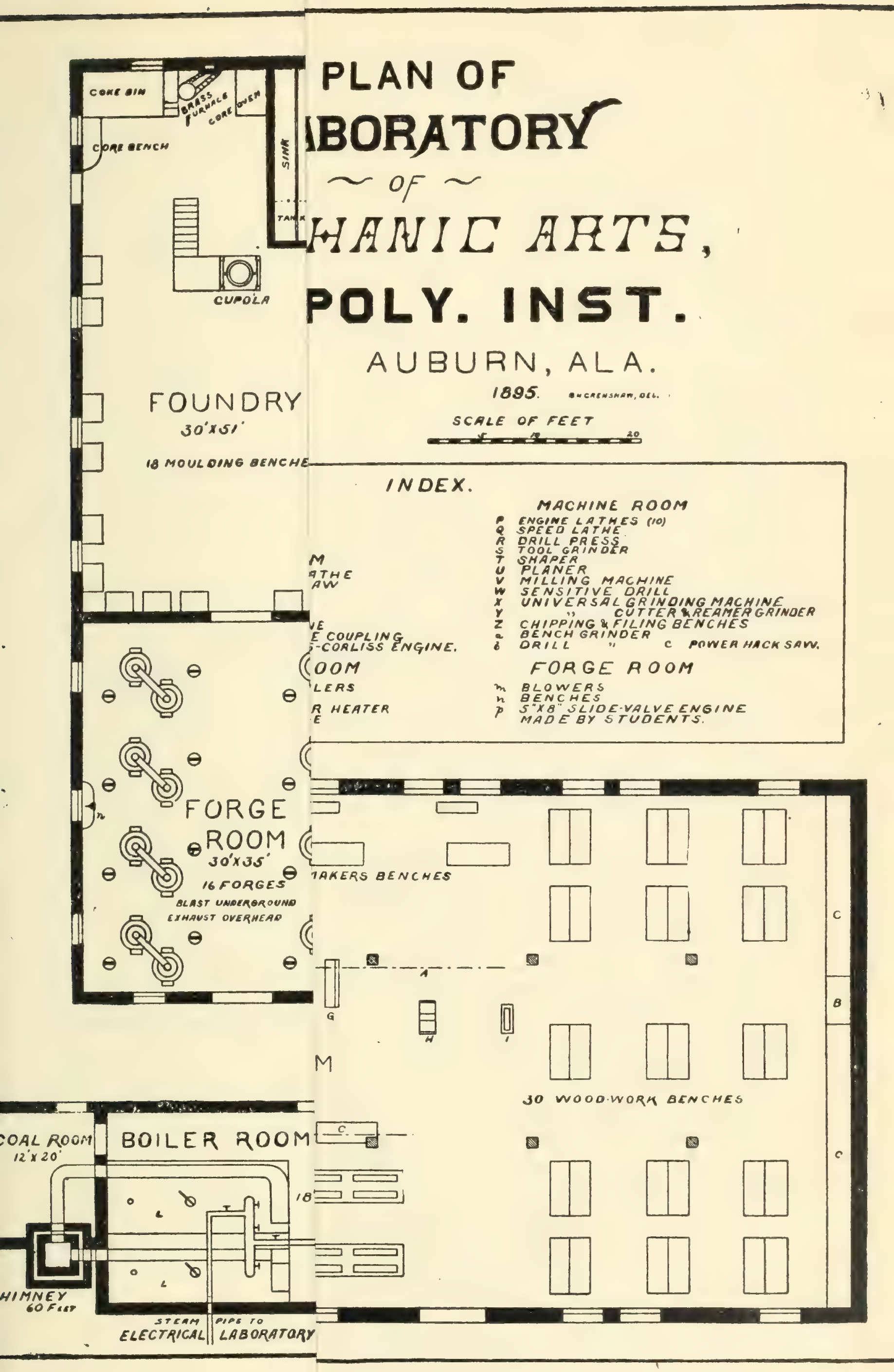
JUNIOR YEAR.

Elementary Mechanics.—Three hours a week for the first term are devoted to this subject. The fundamental laws underlying all mechanical science and the mechanics of liquids, gases and vapors are studied.

Kinematics.—Three recitations per week during the second and third terms are devoted to this subject.

Under this head machines are analyzed and their elementary combinations of mechanism studied. The communication of motion by gear-wheels, belts, cams, screws and link-work, the different ways of obtaining definite velocity ratios and definite changes of velocity, parallel motions and quick return motions as well as the designing of trains of mechanism for various purposes, together with the theoretical forms of teeth for gear wheels to transmit the motion through these trains, are investigated under this subject.

Mechanical Drawing.—During the first term the students make drawing to exact scale, of some of the simpler machines. The student takes his own measurements and makes his own sketches from which to make the finished drawing.



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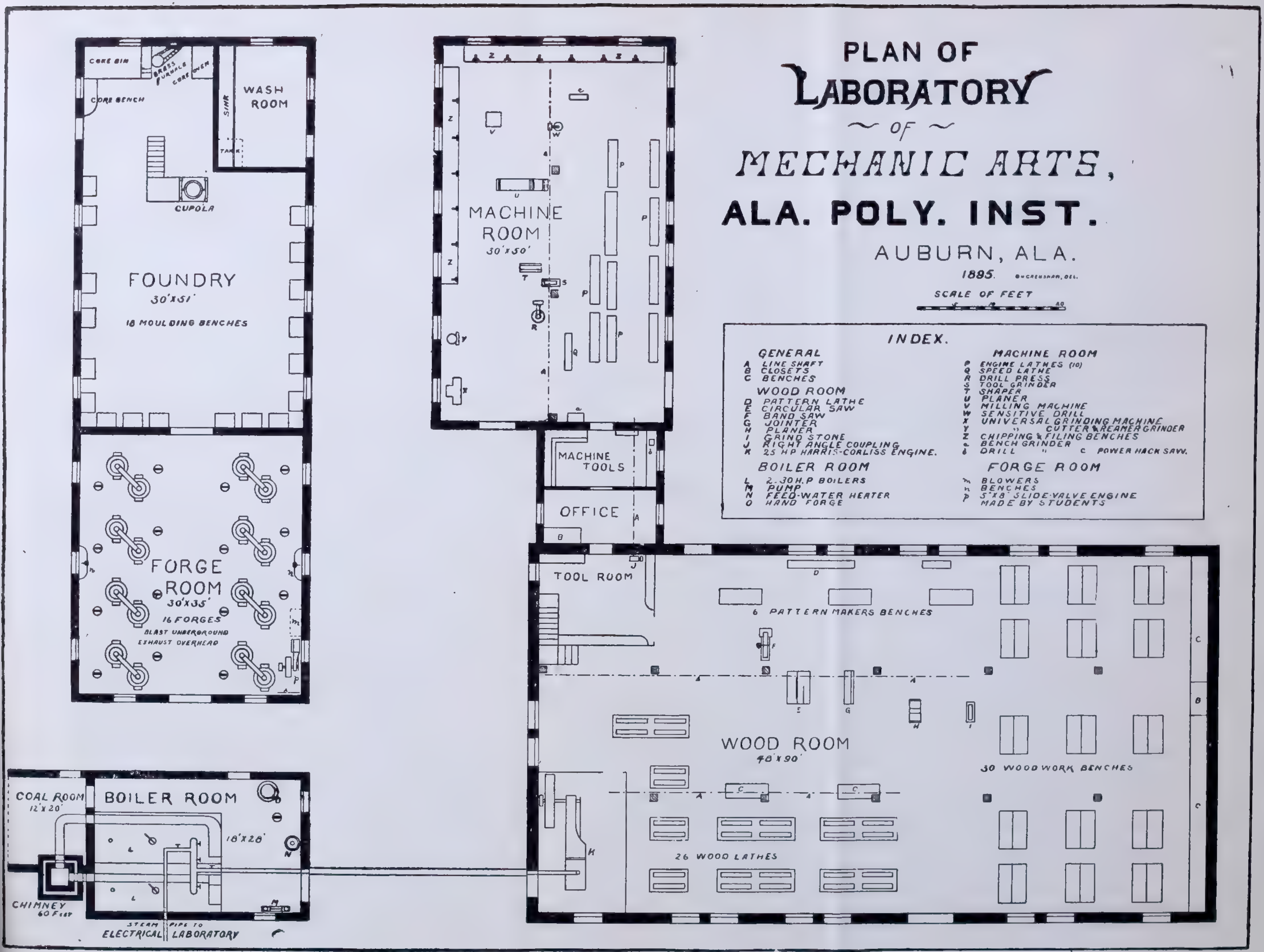

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AUBURN, ALA.

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SCALE OF FEET

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- D PATTERN LATHE
- E CIRCULAR SAW
- F BAND SAW
- G JOINTER
- H PLANER
- I GRIND STONE
- J RIGHT ANGLE COUPLING
- K 25 HP HARRIS-CORLISS ENGINE.

BOILER ROOM

- L 2. 30 H.P BOILERS
- M PUMP
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- P ENGINE LATHES (10)
- Q SPEED LATHE
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- X UNIVERSAL GRINDING MACHINE
- Y " CUTTER & REAMER GRINDER
- Z CHIPPING & FILING BENCHES
- a BENCH GRINDER
- b DRILL " c POWER HACK SAW.

FORGE ROOM

- m BLOWERS
- n BENCHES
- p 5"X8" SLIDE-VALVE ENGINE MADE BY STUDENTS

TEXT-BOOKS.

Wood's Elementary Mechanics, Barr's Kinematics of Machinery.

SENIOR YEAR.

Mechanical Engineering of Power Plants.—The first term five hours per week is given to the study of the practical applications of steam machinery. It is believed that a thorough knowledge of the apparatus in actual practical use is the best preparation a student can have for the study of the theory, and to that end, the different types of engines, boilers, pumps, condensers, and other auxiliary apparatus are taken up and studied in detail, and the advantages and disadvantages of each discussed. Extensive files of manufacturer's catalogues are kept and the technical papers and magazines in the library are freely used in order to keep in touch with the latest and best practice in engineering work.

Steam Engine.—The second term five hours per week will be given to the study of the theory and efficiency of the steam engine, with discussions of the effects of condensation in cylinder, action of fly wheels, effects of jacketing, etc. Simple and compound engines, various valves and cut-off motions, and the principal types of modern engines are studied. Special attention is given to the steam engine indicator.

Applied Mechanics.—The third term, four hours per week is given to work in this subject. Applications of the mechanical principles previously learned, are made to the solution of practical problems. Considerable attention is given to graphical methods, these being used in preference to the analytical when possible.

One hour a week for the third term is given to a series of lectures on mechanical refrigeration and gas and gasolene engines.

Machine Design.—The subject of machine design is made a continuation of the junior course and runs throughout the year, two hours a week. The general plan of the work follows the text-book adopted, but variations are made and additional exercises given when found desirable. The strength and proportion of joints, fastenings and machine details are studied. Problems are given, the dimensions worked out and the drawings made. It is the purpose of the course, as far as time will permit, to prepare students for practical drawing-room work.

Laboratory Work.—The students are not only taught how to calibrate and use the different instruments, but they are brought in contact with engineering appliances under practical working conditions.

Thoroughness of work is sought rather than the performance of a large number of experiments.

The following course has been arranged:

Calibration of steam gauge; calibration of indicator spring; calibration of thermometer; calibration of scales and balances; calorimeter tests with barrel, separating and throttling calorimeters; boiler test with determination of the quality of steam and analysis of flue gas; efficiency test of engine with brake and indicator power measurement; test of hot air pumping engine; efficiency and duty of a steam pump; tensional, compressional and transverse tests of cast iron, wrought iron, steel and wood, in which are observed the limit of elasticity, the ultimate breaking strength and the modulus of elasticity.

This class usually makes a test of some electric plant or mill some time in the last term.

The apparatus for carrying on this work consists of a 100-horse power Heine boiler, a 45-horse power Imperial cross compound engine, especially arranged for experimental work, supplied with Wheeler surface condenser and Deane air pump and circulating pump; of a 25-horse power Harris-Corliss engine, a 35-horse power Westinghouse engine, a 25-horse power Atlas engine, two 9-horse power engines constructed by students in the shops, a duplex Deane steam pump, an Ericsson hot air engine, a Westinghouse air pump, four steam engine indicators, a separating calorimeter, pyrometers, scales, a standard steam gauge with apparatus for testing steam gauges, a Crosby dead weight tester for correcting the standard gauge, a 35,000 pound testing machine, and Henning micrometer extensometer, a Carpenter calorimeter with auxiliary apparatus for determining the heating value of different fuels, a draft gauge, and a Henning pocket recorder.

TEXT-BOOKS.

Hutton's Mechanical Engineering of Power Plants, Holme's Steam Engine, Reid's Machine Design, Perry's Applied Mechanics.

REFERENCE BOOKS.

The Library contains a number of standard works on the various subjects studied, and the students are referred to them constantly for more extended treatment of many points that come up in class.

POST-GRADUATE COURSE.

The following course has been arranged and represents the amount of work required. Hydraulics may be substituted for thermodynamics if the members of the class are unanimous in wishing the change. Other substitutions may be made at the option of the professor, provided they represent an equivalent amount of work and are in the general line of the course selected.

Dynamometers.—This includes dynamometers and the measurement of power. Absorption and transmission dynomometers are studied, with their application and use in testing steam engines.

Valve Gears.—The different forms of valve gears of steam engines are studied, and problems in designing gears are worked out.

Thermodynamics of the Steam Engine.—This subject is studied theoretically and practically, and attempts a complete analysis of the action of steam in an engine.

Laboratory Work.—As much advanced laboratory work will be given as can be arranged with the appliances at hand.

TEXT-BOOKS.

Flather's Dynamometers and Measurement of Power, Spangler's Valve Gears, Peabody's Thermodynamics of the Steam Engine, Merriman's Hydraulics.

AGRICULTURE.

PROFESSOR DUGGAR.

Instruction in agriculture is given by means of lectures, text-books, bulletins of the agricultural experiment stations, and practical work in field, barn, and dairy.

The study of agriculture begins with the freshman class in the third term, and extends through three terms of the sophomore year and two terms of the junior year. The time devoted to this study in the lecture room is two hours per week with each class.

The subjects studied by the freshman class are the breeds of horses, cattle, sheep and hogs—their characteristics, uses, management and adaptability to the South. Practical work in judging live stock is included in the course. Five breeds of cattle and two of hogs are represented in the herd maintained by this department.

The first term of the sophomore year is devoted to dairying and to a study of the principles of live stock breeding. Dairying will be taught by practical work in the dairy—butter making, determination of fat in milk by the Babcock method, etc.,—as well as by instruction in the lecture room.

In the second term of the sophomore year the following subjects are studied: Soils—chemical and physical properties, defects, and means of improvement; the control of water, including means of conserving moisture in times of drought, terracing, underdrainage, and open and hillside ditches; objects and methods of cultivation; agricultural implements; rotation of crops; and improvement of plants by crossing, selection, and culture.

The third term of the sophomore year is devoted to the staple crops produced in Alabama, to forage plants adapted to the South, and to plants valuable for the renovation of soils. The more important crops are treated with reference to varieties, soil and fertilizer requirements, methods of planting and cultivating, and uses.

In the junior year the subjects of feeding animals and of farm management are studied. Among the topics included under the latter heading are different systems of farming and stock growing, farm equipment and building, silos and silage, care of farm manures, composting, choice and methods of applying commercial fertilizers for different crops and soils, and economical methods of improving exhausted soils.

In every class the student is encouraged to independent thought on agricultural problems rather than to depend on "rules of thumb," so that he may be prepared to adapt his practice in after years to changed conditions of soil, climate, capital, market, etc. The successful farmer must be a thinker rather than a blind follower of inflexible rules.

The effort is made to keep before the student the difference between the widely applicable principles on which every rational system of farming rests and the details that vary with changing conditions. The conditions of soil, climate, etc., prevailing in different parts of Alabama are kept constantly in view.

As far as limited time allows, attention is directed to agricultural literature now accumulating so rapidly in this and in foreign countries, to the end that in future years the student may know where and how to seek the information that he may need.

Applicants for post-graduate work in agriculture will be assigned special research work and aided in the line of investigation deemed best for each individual student.

REFERENCE BOOKS.

Horses, Cattle, Sheep and Swine, by Curtis; The Study of Breeds, by Shaw; Milk and Its Products, by Wing; Dairyman's Manual, by Stewart; Soils and Crops of the Farm, Morrow & Hunt; Forage Plants by Shaw; The Fertility of the Soil, by Roberts; Corn Culture, by Plumb; The Soil, by King; Manures and the Principles of Manuring, by Aikman; Drainage for Profit and Health, by Waring; Agriculture in Some of its Relations with Chemistry, by Storer; Manual of Cattle Feeding by Armsby; Feeds and Feeding, by Henry; Stock Breeding, by Miles; Hand-book of Experiment Station Work; and selected publications of the various divisions of theU. S. Department of Agriculture and the agricultural experiment stations.

BIOLOGY AND HORTICULTURE.

PROFESSOR EARLE.

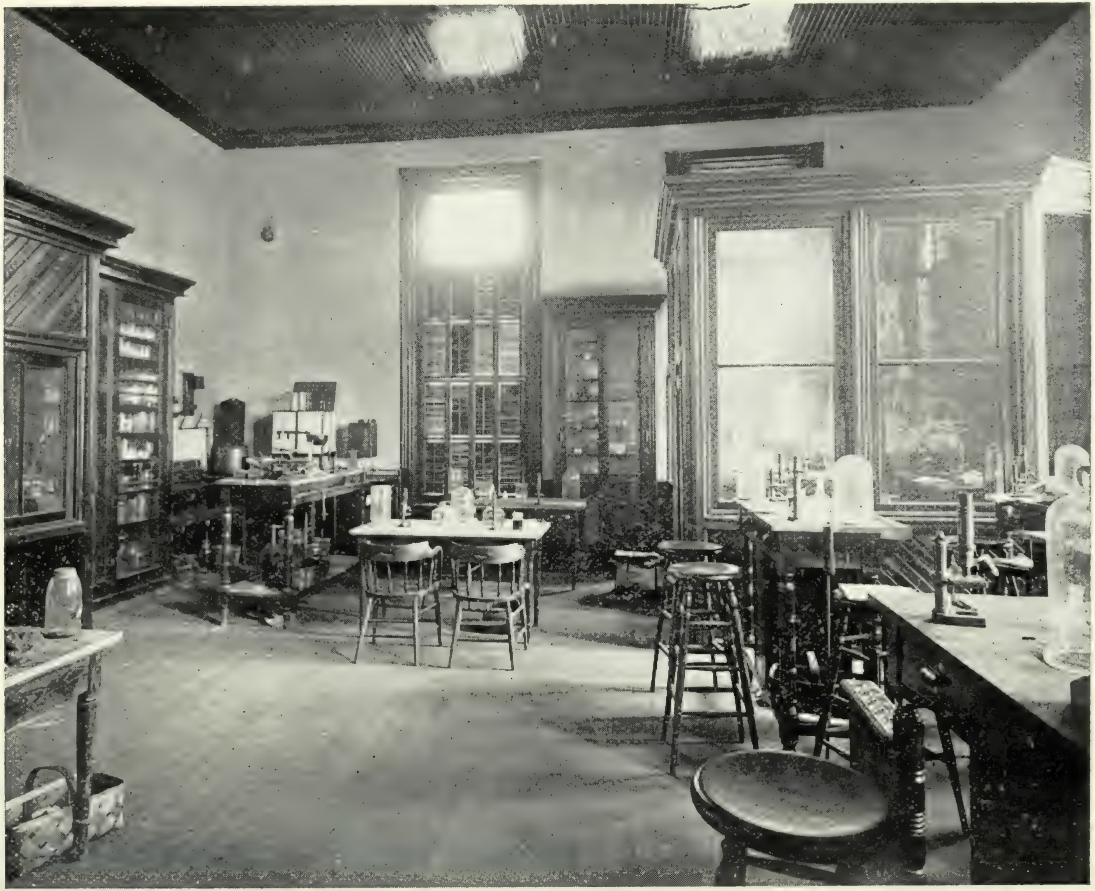
ASSISTANT MASON.

The subject of biology is required of the senior class in the courses of chemistry and agriculture, and of pharmacy. It occupies five hours a week for three terms of the senior year. The work in this department will be largely confined to the study of the lower forms of plant life and to vegetable physiology, or the study of plants as living beings. Under the first head special attention will be given to the bacteria and other diseases producing organisms of man and the higher animals; and to the parasitic fungi that cause diseases of plants. Under vegetable physiology those problems that explain the foundation for correct agricultural practices will be made most prominent. This will include the germination of seeds, the food and nutrition of plants, the circulation of sap, the processes of reproduction, plant variability, etc.

The instruction will be by text-book, supplemented by lectures and by practical laboratory work.

The students will be required to make careful microscopic drawings of objects studied. They will also collect material in the fields and determine it so far as their instruction will admit.

The equipment for instruction in this department comprises, besides a sufficient lecture room a students' laboratory and two small glass rooms for cultural and bacteriological work. These are supplied with water, gas and all necessary appliances for thorough primary and advanced work, including compound and dissecting microscopes for each student, microtomes, parafine baths, incubators, steam and dry sterilizers, instantaneous water heaters, Pasteur filter, chemical and common balances, set of Brendel's models of parasitic and other fungi, besides a large and well selected stock of glassware, staining fluids, chemical re-agents, culture, media, etc. In the private office of the department, which is fitted up as a special laboratory for the use of the professor in charge, is located a



LABORATORY OF BIOLOGY.

good reference library and the scientific collections of the department. At present these consist of about 17,000 named specimens of fungi, and of the other groups of cryptogams. These books and collections are accessible to the students, and constitute, with the other resources mentioned, a superior equipment for advanced biological instruction.

HORTICULTURE.

At present special horticultural instruction is confined to the spring term of the junior year in the course of chemistry and agriculture, and to some practical work and "field lectures" to the students of the same course during the sophomore year. Instruction is given by lectures and text-book and by courses of reading, using the green house and orchards and gardens of the experiment station to give practical illustrations of the subjects taught.

Attention is called to the various fruits and vegetables that can be successfully cultivated in Alabama, and methods of propagation, cultivation and marketing are discussed. Particular attention is called to the diseases and insect enemies to which each of these crops are liable, and careful directions are given as to the best known means of combatting them. The construction and management of gree-houses, hotbeds and cold frames receive special attention, while such topics as floriculture, landscape gardening and forestry are discussed in a general way only.

Special work will be arranged for any student desiring to take a more extended course in horticulture.

MILITARY SCIENCE AND TACTICS.

COL. B. S. PATRICK, COMMANDANT.

Military science and tactics are required by law to be taught in this institution. The law is faithfully carried out by imparting to each student, not physically incapacitated to bear arms, practical instruction in the school of the soldier, of the company and of the battalion in close and extended order, also in guard mountings, inspections, dress parades, reviews, etc.

Under section 1225, U. S. Revised Statutes, the College is provided with modern cadet rifles and accoutrements. Ammunition for practice firing is used under the direction of an experienced officer. The exercises in target practice begin the first day of the third term.

The following uniform of standard cadet gray cloth has been prescribed for dress. Coat and trousers as worn for fatigue at West Point, with dark blue cadet cap. A neat and serviceable uniform can be obtained here at $15 to $16. This is less expensive than the usual clothing. All students are required to wear this uniform during the session.

The entire body of students is divided into companies. The officers are selected for military efficiency, good conduct and scholarship. The commissioned officers will be selected either from the senior or junior classes, and promotion will depend on merit and not wholly on seniority.

A band, composed of cadets, furnishes appropriate music at all reviews and parades, and on other special occasions.

A student who has once accepted an office cannot resign it except for reasons entirely satisfactory to the President and Commandant. The resignation of his office by a minor will usually not be considered without first placing all the circumstances of the case before his parent or guardian.

Candidates for appointment or promotion may be required to stand an examination. Moral fitness, including demerits, will be considered.

Examinations will be conducted by a board of officers, to be composed of the Commandant of Cadets and two commissioned officers, to be designated by him. The proceedings of the board are subject to revision and approval by the President of the College.

Each company is officered by one captain and two first lieutenants, one second lieutenant, and with a proper number of non-commissioned officers. The officers and non-commissioned officers are distinguished by appropriate insignia of rank. These appointments

CORPS OF CADETS.

are confirmed by the President on nomination of the Commandant.

The junior class recites once a week in the United States Infantry Drill Regulations.

The senior class recites once a week in Wagner's Security and Information, and Manual of Guard Duty, U. S. Army.

On the graduation of each class the names of such students as have shown special aptitude for military service will be reported to the Adjutant-General of the U. S. army and the names of the three most distinguished in military science and tactics will be inserted in the U. S. Army Register, and published in general orders from headquarters of the army.

PHYSIOLOGY AND VETERINARY SCIENCE.

PROFESSOR CARY.

ASSISTANT DUNCAN.

PHYSIOLOGY.

The sophomore class studies human anatomy, physiology and hygiene during the entire college year.

It is the aim of the department to give the students practical and real knowledge of the gross anatomy and functions of the various parts of the human body. Due attention is given, also, to the laws of health—the conditions most favorable to a continuous healthy action of the organs of the human body.

Instruction is given by lectures and by text-books, supplemented by blackboard drawings, charts, models of organs, a human skeleton and by dissections of some of the smaller animals (dog, cat, etc).

Martin's Human Body is used as a text and reference book, and several other works on anatomy, physiology and hygiene may be consulted in the college library.

VETERINARY SCIENCE AND ART.

Students in the agricultural and chemical course of study, during the entire junior and senior years, devote to this work two hours per week in the class room and three hours per week at practical clinics. Instruction in veterinary science and art is given by lectures.

The lectures are arranged with special reference to the students who are interested in horses or other domestic animals; also to those students who contemplate studying human or veterinary medicine. While it is not the aim to give a complete course in veterinary medicine, we attempt to present the general principles of comparative medicine with such special applications as are adapted to the conditions and wants of the students.

Special attention is given to the exterior anatomy of the horse, while comparative anatomy is presented mainly in connection with the study of the diseases of the different apparatus of the horse or other domestic animals.

Lameness in the horse, minor surgery, the actions and uses of the most common medicines, the principles and practice of comparative medicine, and the ways of protecting the health of domestic animals, are considered in as plain and practical a manner as the time allotted to each subject will permit. Post-mortem examination and the dissection of domestic animals are used as object lessons in the study of general pathology and anatomy.

The senior class in pharmacy devotes three hours per week, during the first and second terms to the study of therapeutics; and three hours per week during the third term to class room and laboratory work in bacteriology.

To the post-graduate student this department furnishes work in histology, pathology, bacteriology, meat and milk inspection. This work gives students who contemplate studying medicine excellent preparatory work along that line. Such students may devote their entire time to work in this department with the approval of the faculty.

Histology includes methods of injecting small animals, collecting, fixing, hardening, embedding, section cutting, mounting, staining, examining under the microscope, drawing and describing the different tissues.

Pathology is studied in text and reference books and morbid histology embraces naked eye and microscopic examinations of diseased tissues in the laboratory. Quite a collection of diseased tissues and animal parasites are found in connection with the laboratory.

The laboratory is well fitted for the study of bacteriology. Bacteriological analysis of water, milk, sputum, pus, diseased tissues, and of soils can be made. All of the practical operations in the preparation of culture, media, sterilizations, inoculations of small animals, straining, microscopical examinations, may be learned. In the laboratory are 3 Bausch & Lomb and 2 Winkel microscopes, each of which is supplied with oil immersion objectives, 2 oculars, Abbe condenser, and iris diaphragm. Sterilizers, autoclaves, incubators, and all the necessary apparatus required in bacteriological work are to be found in the laboratory.

The department of physiology and veterinary scinece is now located by itself in a building which consists of a two-story portion containing four laboratory rooms on the second floor and a lecture room, museum and office on the lower floor; and a one-story part which contains an operating room.

The building is supplied with water and gas and the laboratory is now equipped for work. The museum contains the skeletons of the horse, the ox, the sheep and the hog, and a human skeleton. It also contains anatomical models of the various parts and organs of the human body and models of many parts of the horse, the ox and the other domestic animals. It also contains a collection of pathological and anatomical specimens, and one of animal parasites.

The new veterinary hospital building contains five large box-stalls, four open single stalls, an office and a feed room on the lower floor; the upper floor is used as a storage room for hay, fodder etc. The hospital is supplied with fresh water.

A new brick and cement dissecting room (16x32) has just been completed. It is supplied with extensive north sky-light and with water and gas.

Every Saturday during the college year the department conducts a free clinic for the benefit of the students in veterinary science and art. Clinical cases have been various and numerous, giving the students opportunity to see and study many diseases and lameness and to become proficient in minor operations.

PHARMACY AND PHARMACOGNOSY.

PROFESSOR MILLER.

ASSISTANT MASON.

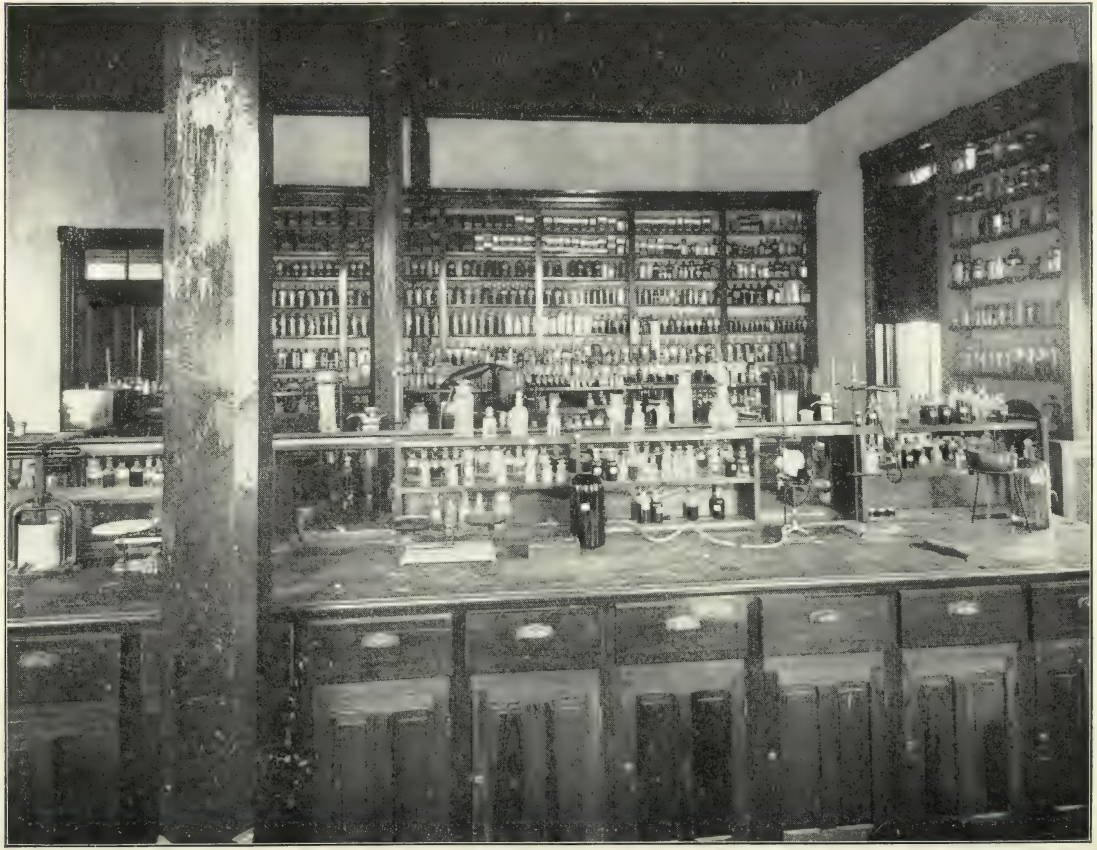
JUNIOR YEAR.

Pharmacy.—Class work, *three hours* a week. The different systems of weights and measures. Specific gravity. Pharmaceutical problems. The fundamental operations in pharmacy. Apparatus used in pharmaceutical processes. Discussion of all classes of pharmaceutical preparations.

Laboratory, *nine hours* a week. Preparation of official and non-official galenicals.

Pharmacognosy.—Class work with laboratory work,

UNIVERSITY OF ILLINO
PRESIDENT'S OFFICE



LABORATORY OF PHARMACY

four hours a week. All official vegetable drugs studied with aid of simple and compound microscope.

SENIOR YEAR.

Pharmacy.—Class work, *four hours* a week. Official and non-official pharmaceutical chemicals, inorganic and organic, including the more important newer remedies. The prescription. Incompatibilities. Doses.

Laboratory, *nine hours* a week. Preparation of official and non-official pharmaceutical chemicals, inorganic and organic. Pharmaceutical testing by pharmacopœial methods. Drug assaying, special attention given to compounding of prescriptions.

Pharmacognosy.—Class work with laboratory work, *four hours* a week. Study of important non-official vegetable drugs; of drugs of animal origin; of adulterants and worthless drugs. Practical exercises in identification of pharmaceutical preparations and chemicals.

The practical work in pharmacy includes the manufacture of not less than two hundred pharamaceutical preparations and the compounding of not less than fifty prescriptions.

The work in pharmacognosy includes the study of more than 300 drugs, each of which the student is required to recognize by its physical and chemical properties, giving Latin name, common name, origin, habitat, constituents, medicinal action and dose.

MISCELLANEOUS.

GYMNASIUM AND ATHLETIC FIELD.

The gymnasium is situated at the west end of the athletic and drill grounds and contains one room, 80x40 feet, with strong beams above for fastening the usual fixtures.

It is equipped with Spalding's gymnasium apparatus and is open to all students at stated hours, under the care of an officer.

The athletic field has a quarter-mile cinder track and ample space for football, baseball and general athletics.

DISCIPLINE.

The government of the College is administered by the President and Faculty in accordance with the code of laws and regulations enacted by the Trustees.

Attention to study and punctuality in attendance in recitations and all other duties, are required of every student. Students are prohibited from having in their possession arms or weapons not issued for the performance of military duty, and also from using or causing to be brought into the college limits, intoxicating liquors.

Students are not permitted to participate in any public entertainment, or game, without previously obtaining the consent of the faculty.

No cadet will be permitted, without the approval of his parent or guardian, to take part in a public game of football; nor will permission be given for any athletic game to a student deficient in his studies.

MILITARY DRILL.

There are three regular military drills each week and all undergraduate students, not physically incapacitated to bear arms, are required to engage in these exercises; privates of the senior class are exempt.

The drills are short and the duty involves no hardships. The military drill is a health-giving exercise, and its good effects in the development of the *physique* and improvement of the carriage of the cadet are manifest.

RELIGIOUS SERVICES.

Religious services are held every morning in the chapel.

All students are required to attend these exercises, and also to attend the church of their choice at least once on Sunday.

Opportunities are also offered for attending Bible classes every Sunday.

YOUNG MEN'S CHRISTIAN ASSOCIATION.

This association is regulary organized and has a well furnished room on the first floor of the main building set apart for its exclusive use. Through its weekly meetings it exerts a wholesome Christian influence among the students.

Students are advised to unite with the Association when they enter the Institute.

The ladies of the different churches in Auburn have recently formed an auxiliary association to the Y. M. C. A. of this Institute. Assisted by members of the faculty, they will hold monthly a joint service of praise in the College chapel and will provide lecturers for the occasion.

They have also undertaken to build a special hall for the use of the Association, and will solicit subscriptions for that purpose.

The following are the officers:

A. F. JACKSON, President.
G. W. SNEDECOR, Vice President.
P. S. HALEY, Corresponding Secretary.
L. WHORTON, Recording Secretary.
J. T. LETCHER, Treasurer.
J. O. WEBB, Librarian.

LOCATION.

The Institute is situated in the town of Auburn, fifty-nine miues east of Montgomery on the line of the Western Railroad.

The region is high and healthful noted for its general good health and freedom from malaria, having an elevation of eight hundred and twenty-six feet above tide-water. By statute of the State the sale of spiritous liquors and keeping saloons of any kind are forbidden.

BOARDING.

The Institute has no barracks or dormitories and the students board with families in the town of Auburn, and thus enjoy all the protecting and beneficial influence of the family circle.

REGULATIONS.

(1) Eash student upon entering is required to sign his name in the matriculation book and pledge himself to obey the rules and regulations of the College.

(2) Every absence from recitation or examination is graded zero.

(3) When the term grade of a cadet is lowered by reason of absence for which satisfactory excuse can be rendered, a special term re-examination may be subsequently granted, and the grade made on the special re-examination alone is substituted for that previously received.

(4) Only sickness, as reported by the Surgeon, or being absent by reason of family sickness, will constitute a satisfactory excuse for granting a re-examination.

When a cadet is called away from College by his parents his zeroes for absences are not removed.

(5) The term grade of a student is the average of his daily sessional and term examination marks, found by giving due weight to the term examination.

(6) Privates of the senior class in full standing who are candidates for graduation may be excused by the President from all military drills, and also students over twenty-one years of age at the time of entering College that are permitted to devote their time to one special study, as chemistry, agriculture or pharmacy, provided the time devoted to drill is spent by them in laboratory work.

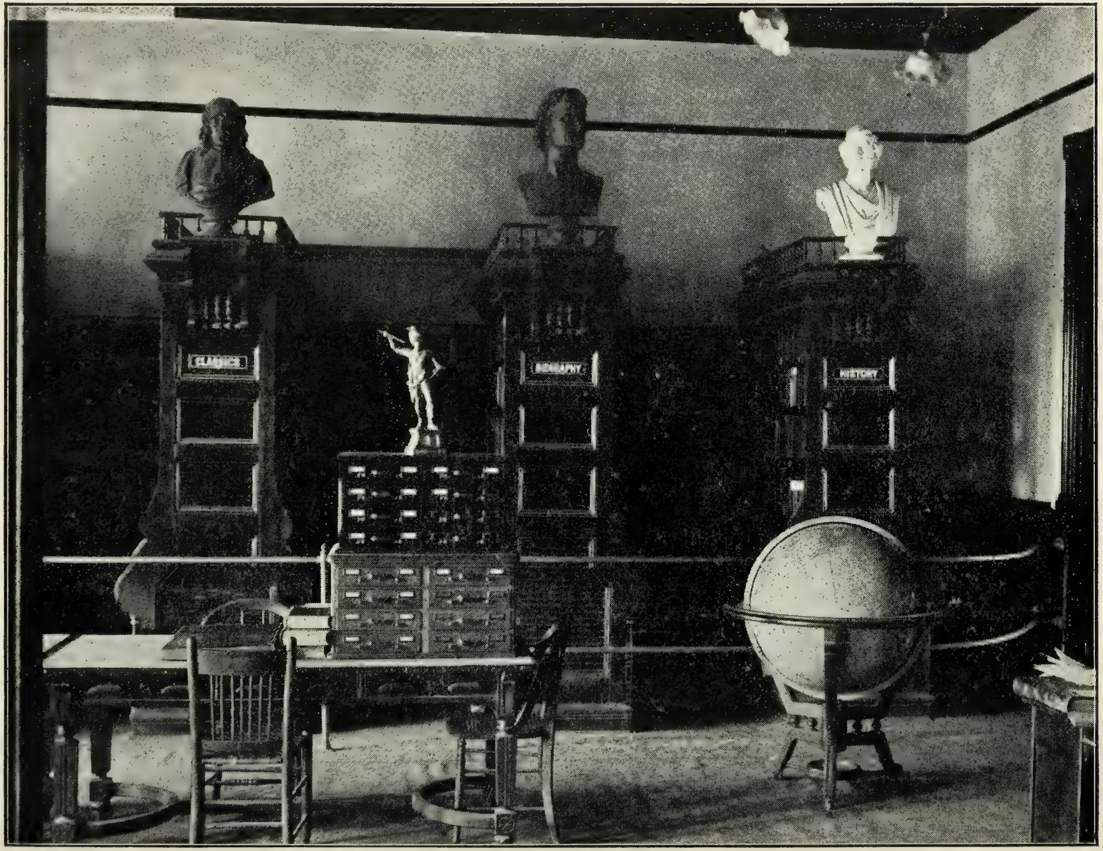
No cadet can continue an officer in the corps who during a session is classed in the fourth grade in two or more subjects at any term examination, or in the fourth grade in one subject at two term examinations; nor who receives during the session more than 60 demerits. For failures of officers re-examinations will not be granted.

DISTINCTIONS.

Distinctions are awarded in the different subjects of each class to those students whose grade for the entire year is above ninety per cent.

Certificates of distinction are awarded in public on commencement day to those who obtain an average of 90 per cent. in all the prescribed studies of a regular class; and also to those who obtain three distinctions in the freshman class, four in the sophomore class, five in the junior class, and six in the senior class, provided they have satisfactorily passed all the regular examinations of that session, and have not received forty demerits during the year.

A distinction is not given in the senior class if the average grade in any one subject is less than 75 per cent.



GENERAL LIBRARY.

HONORS.

Members of the senior class who attain distinction at the final examinations with an average grade, in the subjects required, of 95 per cent. will be published as

GRADUATES WITH HIGHEST HONOR.

Those who attain distinction with an average grade of 90 per cent., and less than 95, are published as

GRADUATES WITH HONOR.

Those who attain less than 90 per cent. and more than 60 per cent. are published as *Graduates.*

Students, of the classes lower than the senior, who attain distinction with an average grade in the required subjects of 95 per cent. are published in alphabetical order as having attained the *Highest distinction.*

RECORDS AND CIRCULARS.

Daily records of the various exercises of the classes are kept by the officers of instruction.

At the close of each term and at regular intervening intervals reports, giving the grade made by each student, are sent to the parent or guardian.

EXAMINATIONS.

Written examinations on the studies of the month are held by each professor during the months of October, February and April. Each examination occupies one hour.

At the end of each term written examinations or written and oral, are held on the studies passed over during that term.

Special examinations are held only by order of the Faculty, and in no case will private examinations be permitted.

Students falling below the minimum grade at the final examinations, can be promoted to full standing in the next higher class only on satisfactory examinations at the opening of the next session.

It is required that every student who enters the College shall remain through the examinations at the end of the term. Leaves of absence and honorable discharges will, therefore, not be granted within three weeks of the examination, except in extreme cases.

LIBRARY.

The library occupies an elegant, well-lighted room in the main building, and also two smaller adjacent rooms. It contains over 15,000 bound volumes, including valuable reference and scientific books, with select editions of standard authors, and others suitable for students, carefully and recently selected. It is kept open eight hours daily for the use of students as a reading room and is thus made an important educational feature.

MUSEUM.

The museum occupies a large room in the third story. It is provided with suitable cases and is equipped with valuable specimens and models of an instructive character. It is under the charge of Professor P. H. Mell, to whom specimens as contributions may be sent.

BOARDING HOUSES.

For each house an inspector is appointed, whose duty it is to report those who, without permission, leave their rooms after "call to quarters," or are guilty of any violation of order. The report of the inspector is made to the Commandant on alternate days of the week.

Students, after selecting their boarding-houses, are not permitted to make changes without obtaining permission from the president, and this permission is given only at the close of a term, except for special reasons.

Permission to board and lodge at separate houses will be granted only to seniors, to cadets twenty-one years of age and to those who are on the "honor roll," except on special conditions.

EXPENSES.

There is no charge for tuition for a resident of Alabama.

Incidental fee, per session	$5.00
Library fee, per session	2.00
Surgeon's fee, per session	5.00
	$12.00

These fees are payable on matriculation. By order of the trustees no fees can be remitted.

For students entering after January 1st, the fees for a half session only are required.

For a non-resident of the State there is a charge for tuition of $20.00 per session, payable on matriculation, in addition to the annual fee of $12.00 payable by all students.

Board, including lodging, fuel and lights, is furnished at $12.50 to $15.00 per month.

The necessary expenses for a session, not including uniforms or books, are for a resident of Alabama, as follows:

College fees	$ 12.00	$ 12.00
Board, lodging, fuel and lights	112.50	135.00
Washing	9.00	9.00
Total	$133.50	$156.00

By special arrangement with the College authorities, Mrs. M. L. Mitchell, Mr. R. S. Rutland and Mr. B. T. Blasingame will accommodate students with board, lodging, fuel, etc., for $9.50 per month.

By boarding at one of these houses the necessary expenses may be reduced to $106.50 per session. This estimate does not include the cost of the uniform, about $15,00, or of books, say from $5.00 to $15.00, or the laboratory fees in the higher classes, $5.00 or $10.00.

LABORATORY FEES.

For each student in the junior or senior laboratory in chemistry, or in electrical and mechanical engineering, a fee of $5.00 per session is required. This fee is payable on admission to the laboratory and is not remitted.

NON-RESIDENT STUDENTS.

Tuition for students, not residents of Alabama, is $20.00 per session, unless remitted by the Trustees to worthy students upon the recommendation of the Faculty.

The remission of this tuition fee to non-resident students will be granted in the form of a free scholarship for the succeeding year, to those who obtain a distinction the preceding year or who, by reason of merit, are deemed worthy.

This tuition for non-residents is remtted to sons of ministers of the gospel.

HONOR SCHOLARSHIPS.

The following non-resident students were granted, each by reason of special merit in conduct and scholarship during the session1899-1900, an honor scholarship, which exempted from tuition fees:

R. T. Arnold	Florida.
W. W. Askew	Georgia.
R. Y. Buchanan	Georgia.
D. Chipley	Florida.
J. D. Elliott	Minnesota.
F. C. Greene	Georgia.
A. F. Jackson	Georgia.
M. Ketchum	New York.
K. E. Lindrose	Louisiana.
J. H. Mitchell	Georgia.
H. E. Werner	Texas.
W. D. Willis	Florida.
H. M. Yonge	Florida.
J. E. D. Yonge	Florida.

UNIFORM.

A uniform of cadet gray cloth is prescribed, which all undergraduate students are required to wear during the session. The uniforms are made, by a contractor, of excellent cloth manufactured at the Charlottesville mill. This suit, including cap, costs at present $15.50. It is neat and serviceable, and less expensive than ordinary clothing.

CONTINGENT FEE.

A contingent fee of five dollars is required to be deposited by each student on matriculation, to cover any special or general damage to college property for which he may be liable. General damages are assessed on the body of students.

At the close of the session the whole of the contingent fee, or the unexpended balance, is refunded to the student.

AMOUNT OF DEPOSIT.

Fees to be paid on entrance:

Incidental fee	$5 00	
Library	2 00	
Surgeon	5 00	
Contingent fee	5 00	
Uniform	15 50	
For a resident of Alabama	$32 50	$32 50
Tuition non-resident		$20 00
For a non-resident		$52 50

Besides the above, the student should deposit with the Treasurer enough to pay for books, one month's board, incidentals, amounting to, say, $27.50. Hence, a resident of Alabama should deposit with the Treasurer $60,00, a non-resident, $75.00.

FUNDS OF STUDENTS.

Parents and guardians are advised to deposit with the Treasurer of the College all funds desired for sons, or wards, whether for regular charges of college fees or board, or for any other purpose. It is the duty of this officer to keep safely all funds placed in his hands and to pay all expenses incurred by the students including board, uniform, books, etc., when approved.

When funds are deposited checks are drawn on the Treasurer of the College by the Cadet to pay his necessary expenses. These checks are paid only when officially approved. The approval is given only for necessary expenses, as stated in the catalogue, unless specially requested in writing by the parent.

The College cannot he held responsible for the expenses of a student, unless the funds are deposited with the treasurer. No student should be permitted to have a large amount of pocket money, as it brings only trouble and encourages idleness.

THESIS.

Each applicant for a degree is required to write and submit to the Faculty a thesis, or oration and read and deliver the same at commencement, if required by the Faculty.

There may be presented, with the approval of the professor in charge, a carefully written report of special work done in a laboratory showing independent investigation and discussion of some subject.

It must be given to the Professor of English by the first of May.

The subject must be submitted for approval by January 1st.

LITERARY SOCIETIES.

There are two literary societies connected with the College—the Wirt and the Websterian. Each has a hall in the main building.

These societies hold celebrations on the evenings of Thanksgiving Day and 22nd of February. A gentleman, selected by the Faculty, is invited to deliver an address before the Literary Societies at Commencement.

To encourage the literary societies the Trustees have directed that a medal be awarded on commencement day to the member of each society who is both efficient and regular in attendance, and who is the best debater. The method of selection to be determined by the Faculty.

EXERCISES IN ELOCUTION.

On every Saturday morning, immediately after chapel services, oratorical exercises in declamation and in original orations are conducted by the Professor of English, in the presence of the Faculty and students.

The *first and second terms* the students of the junior and sophomore classes are exercised in original orations and declamation.

The *second and third terms* the members of the senior class read essays or deliver original orations.

SOCIETY OF THE ALUMNI.

In 1885, the Alumni Society established "The Alumni Scholarship," which makes an annual loan of one hundred and seventy dollars to a beneficiary elected by the society. Young men have been thus enabled to go through college. This scholarship is supported by annual contributions from the Alumni and other friends of the institution.

The beneficiary selected is admitted without charge for tuition or college fees of any character.

Subscriptions should be sent to B. H. Crenshaw, Treasurer, Auburn, Ala.

The annual alumni oration is delivered by a member of the society, in Langdon Hall, on Alumni Day, Tuesday of commencement week.

The following are officers of the society:

R. AP C. JONES	President.
B. B. ROSS	1st Vice-President.
W. L. FLEMING	2nd Vice-President.
B. H. CRENSHAW	Treasurer.
H. H. KYSER	Secretary
A. A. PERSONS	Orator for 1901.
J. F. WEBB	Alternate.

SURGEON.

The surgeon is required to be present at the College daily, to visit at their quarters the cadets that are reported sick, and to give all requisite medical attention without other charge than the regular surgeon's fee, paid on entering college.

ACADEMIC YEAR.

The academic year for 1901-1902 commences on Wednesday, 11th September, 1901 (*second Wednesday after the first Monday*), and ends on Wednesday, 11th June, 1902 (*second Wednesday after first Monday*), which is commencement day.

It is divided into three terms. The first term extends from the opening of the session to the 20th of December; the second term begins January 2nd, and ends March 18th; the third term continues to the close of the session.

DONATIONS TO THE LIBRARY.

U. S. Government.—Public Documents, 376 volumes.

R. L. Thornton, Tuscaloosa, Ala.—History of the Indian Wars, by Henry Trumbull.

Gen. Jas. H. Lane, Auburn, Ala.—History of Randolph-Macon College, by Richard Irby.

Dr. Geo. Petrie, Auburn, Ala.—Proceedings of the First Annual Meeting of the National Conference on University Extension, compiled by George Francis James. Handbook of University Extension, edited by George Francis James.

Handbook of University Extension (second edition, revised and enlarged), edited by George Francis James.

Political Discussions—Legislative, Diplomatic and Popular, by James G. Blaine.

Report of the Special Committee on the Troubles in Kansas.

Historic Towns of the Southern States, edited by Lyman P. Powell.

Mrs. N. T. Lupton.—Five hundred pamphlets and periodicals devoted to scientific subjects.

DONATIONS TO ELECTRICAL ENGINEERING DEPARTMENT.

The General Electric Co.—One kilowatt transformer.

The Pyle National Electric Headlight Co.—Complete electric headlight equipment, consisting of compound steam turbine, dynamo, and projection lamp.

The Dressel Railway Lamp Works.—One eighteen-inch headlight casing and reflector.

DONATIONS TO AGRICULTURAL DEPARTMENT.

Three sacks nitrate of soda from Dr. J. A. Myers, New York, N. Y.

Two and one-half tons kainit from German Kali Works, New York, N. Y.

One ton muriate of potash from same.

One lot of seed corn from Curry-Arrington Co., Rome, Ga.

One lot of seed corn from W. S. Sanders, Danielville, Ga.

One lot of seed corn from Dr. W. C. Stubbs, Audubon Park, La.

One lot of seed corn from Prof. C. L. Newman, Fayetteville, Ark.

One lot of sorghum seed from Curry-Arrington Co., Rome, Ga.

One Hallock Success Weeder, from Hallock Weeder & Cultivator Co., New York, N. Y.

DONATIONS TO COLLEGE MUSEUM

During Session of 1900-1901.

By E. M. Duncan, brown iron ore of Russellville, Franklin County, Ala.; by I. Pickens, D. C. Thornton, E. Taylor, W. H. Chambers—several lizzards.; by W. C. Martin, bead purse taken from Indians in Barbour County during early settlement of that section; by L. Whorton, mole; by J. S. Black, J. M. McNamee, water moccasin; by G. F. Boyd, leather-winged bat; by S. H. Brown, snake; by J. O. Goggans, tanned snake skin; by R. G. Dawson, relic of Battleship Maine; by H. E. Werner, fossils; by W. D. Willis, fossils and minerals, scale of tarpon, specimen of coral formation, Indian relics, satin spar, mummy clothes, variegated sandstone, fossils and shells; by W. S. Rutledge, terrapin; by H. P. Powell, coal, tewenty-seven photographs of cliff dwellings in New Mexico; by Dr. W. H. Blake, three 7-foot rattlesnakes; by J. W. Boyd, Indian relics; by Dr. O. D. Smith, gold ores, quartz rock; by O. H. Alford, mineral ores, manganese ore; by W. L. Thornton, box quartz; by G. O. Dickey, white squirrel; by C. A. Collins, white water-worn pebble; by E. A. Miller, Columbian half-dollar; by W. S. Going, calcite from Pratt City, Ala.; by Miss E. B. Culver, two snouts of saw-fish; by E. S. Killebrew, large cane reed; by W. L. Anderson, gold-bug; by W. G. Little, herbarium

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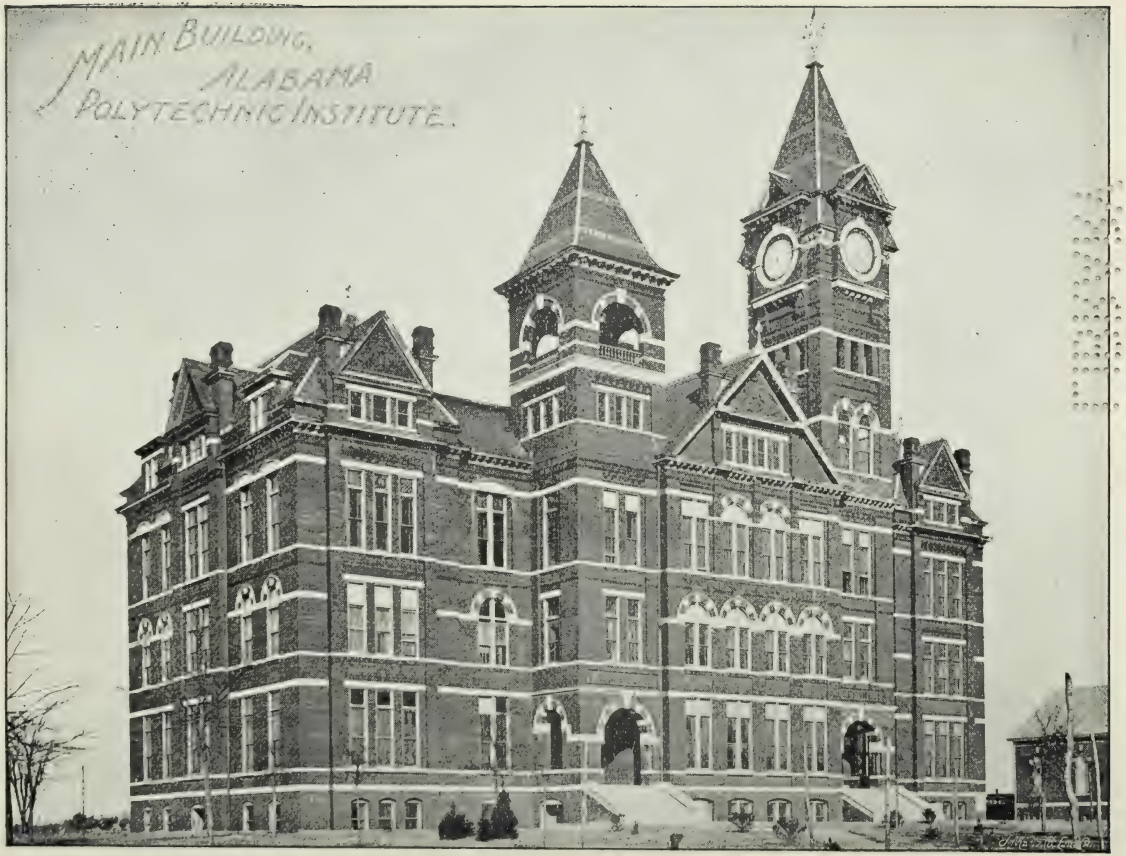
CALENDAR, 1902-1903.

Session Begins............................Wednesday, Sept. 10, 1902.
Examination for admission ....Wednesday, Sept. 10, 1902.
First term begins ....Wednesday, Sept. 10, 1902.
Literary Society Celebration—Thanksgiving Day.....Nov. 27, 1902.
First term ends ....Tuesday, Dec. 23, 1902.
Second Term Begins ....Tuesday, Jan. 6, 1903.
Literary Society Celebration ....Monday, Feb 23, 1903.
Senior Class exercises ....Monday, Feb. 23, 1903.
Second term ends ....Saturday, March 14, 1903.
Third Term Begins ....Monday, March 16, 1903.
Senior Thesis Reported ....Friday, May 1, 1903.
Sophomore Class exercises ....Friday, May 1, 1903.
Field Day ....Friday, May 1, 1903.
Final examinations begin ....Friday, May 29, 1903.
Commencement sermon ....Sunday, June 7, 1903
Annual meeting of Trustees ....Monday, June 8, 1903.
Military exercises, 4 p. m.....................Monday, June 8, 1903.
Junior Class Celebration, 8 p. m..............Monday, June 8, 1903.
Alumni Day ....Tuesday, June 9, 1903.
Military exercises, 5 p. m.......................Tuesday, June 9, 1903.
Address before Literary Societies, 8 p. m....Tuesday, June 9, 1903.
Commencement Day ....Wednesday, June 10, 1903.



MAIN BUILDING,
ALABAMA
POLYTECHNIC INSTITUTE.

CATALOGUE

OF THE

Alabama Polytechnic Institute

STATE COLLEGE

FOR THE

BENEFIT OF AGRICULTURE AND THE MECHANIC ARTS

AUBURN, ALABAMA

1902

MONTGOMERY, ALABAMA
THE BROWN PRINTING COMPANY, PRINTERS AND BINDERS
1902

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His Excellency, W. D. JELKS, President	*Ex-Officio.*
JNO. W. ABERCROMBIE, Superintendent of Education	*Ex-Officio.*

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Jonathan Haralson	Montgomery, Ala.
Thomas Williams	Wetumpka, Ala.
J. A. Bilbro	Gadsden, Ala.

TERM EXPIRES, 1905.

J. M. Carmichael	Ozark, Ala.
W. K. Terry	Birmingham, Ala.
T. H. Frazer	Mobile, Ala.
I. F. Purser	Opelika, Ala.

TERM EXPIRES, 1903.

R. F. Ligon	Montgomery, Ala.
Tancred Betts	Huntsville, Ala.
Wm. C. Davis	Jasper, Ala.

E. T. Glenn, Treasurer. J. H. Drake, M. D., Surgeon.

R. W. Burton, Secretary.

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President.

OTIS DAVID SMITH, M. A., LL. D.,
Acting President, and Professor of Mathematics.

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Professor of Botany and Geology.

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Professor of Civil Engineering and Drawing.

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Professor of History and Latin.

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Professor of General and Agricultural Chemistry and State Chemist.

JOHN JENKINS WILMORE, M. E.,
Professor of Mechanical Engineering and Director of Laboratory.

CHARLES ALLEN CARY, B. Sc., D. V. M.,
Professor of Physiology and Veterinary Science.

(*a*) EMERSON R. MILLER, Phar. M., M. Sc.,
Professor of Pharmacy.

JOHN FREDERICK DUGGAR, M. Sc.,
Professor of Agriculture.

ARTHUR ST. CHARLES DUNSTAN, M. E., C. E.,
Professor of Electrical Engineering and Physics.

JOHN EDWARD WIATT, M. A.,
Professor of Modern Languages.

EDWIN MEAD WILCOX, M. A., Ph. D.,
Professor of Biology and Horticulture.

BOLLING HALL CRENSHAW, M. E.,
Associate Professor of Mechanical Engineering and Mathematics.

---

*Died January 23, 1902.

(*a*) Absent on leave, at University in Germany.

JAMES POWELL COCKE SOUTHALL, M. A.,
Associate Professor of Physics.

BENJAMIN SWEAT PATRICK, E. & M. E.,
Commandant and Acting Professor of Military Science.

ENOCH MARVIN MASON, M. Sc.,
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ROBERT JEFFERSON TRAMMELL, C. E.,
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MICHAEL THOMAS FULLAN, M. Sc.,
Assistant Professor of Mechanic Arts.

CLIFFORD LEROY HARE, M. Sc.,
Assistant Professor of Chemistry.

WILLIAM OSCAR SCROGGS, M. Sc.,
Assistant Librarian, and Assistant in English.

WILLIAM WELCH HILL, E. & M. E.,
Assistant in Mechanic Arts.

ARTHUR FLOURNOY JACKSON, B. Sc.,
Assistant in Sub-Freshman English and Mathematics.

PAUL SHIELDS HALEY, B. Sc.,
Assistant in Civil Engineering and Drawing.

JOHN TALBERT LETCHER, B. Sc.,
Assistant in English.

(*a*) JAMES BAXTER JACKSON, B. Sc.,
Assistant in Chemistry.

(*b*) MATTHEW SCOTT SLOAN, B. Sc.,
Assistant in Electrical Engineering.

JESSE WRIGHT BOYD, B. Sc.,
Assistant in History and Latin.

JAMES OLNEY GOGGANS, B. Sc.,
Assistant in Veterinary Science.

HENRY EDWARD WERNER, B. Sc.,
Assistant in Mechanic Arts.

(*a*) Appointed Jan. 2d, vice A. H. Mitchell, resigned.

(*b*) Appointed Jan. 2d, vice K. E. Lindrose, resigned.

COMMITTEES OF THE FACULTY.

Committee on Discipline,
Professors Smith, Thach, Mell, Ross.

Committee on Entrance Examination,
Professors Smith, Thach, Petrie, Crenshaw.

Committee on Examination of Special Students,
Professors Wilmore, Dunstan, Miller.

Committee on Public Lectures,
Professors Petrie, Dunstan, Southall.

Committee on Library,
Professors Thach, Petrie, Wiatt.

Committee on Athletics,
Professors Ross, Mell, Dunstan, Thach.

Superintendent of Grounds and Buildings,
Professor Wilmore.

Curator of Museum,
Professor Mell.

Secretary of Alumni Record,
Professor Crenshaw.

AGRICULTURAL EXPERIMENT STATION.

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Thomas Williams	Wetumpka, Ala.
Jonathan Haralson	Montgomery, Ala.

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B. B. Ross	Chemist.
C. A. Cary	Veterinarian.
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Thomas Bragg	Second Assistant Chemist.
J. C. Phelps	Third Assistant Chemist.
T. U. Culver	Superintendent of Farm.
R. W. Clark	Assistant Agriculturist.
C. F. Austin	Assistant Horticulturist.
G. F. Freeman	Student Assistant to Director.
M. J. Lide	Student Assistant to Director.

OFFICER IN CHARGE OF FARMERS' INSTITUTES,

Dr. C. A. Cary.

*Died Jan. 23d, 1902.

The Institute is a distinctive school of Science and its applications; being also the State College for the benefit of Agriculture and the Mechanic Arts established by the State in 1872, by endowing it with the land-grant appropriation made by the U. S. Congress in 1862.

The leading object of the Institute, in conformity with the act of Congress and the acts of the State Legislature, is to teach the principles and applications of science.

In its course of instruction it gives prominence to the sciences and their applications, especially to those that relate to agriculture and the mechanic arts; and at the same time the discipline and liberal education obtained by the study of language and other sciences are not neglected.

All students are required to study the English language. The Latin, French and German languages are also taught, and opportunity for their study is offered to students in any course.

The special and technical instruction given is thus based on a sound, general education.

In its different courses of education, work of great value to the youth of the State is accomplished by fitting them by a thorough science-discipline, in which manual training in the lower classes is made a prominent feature for the successful and honorable performance of the responsible duties of life.

While every attention is given to the mental discipline of the students in endeavoring to train them to habits of accurate scientific thought, and thus to qualify them for the duties of life, their moral and Christian training will always constitute the prominent care and thought of the Faculty. The Institute thus endeavors to educate as well as instruct, to form character as well as give information of value.

LABORATORIES AND FACILITIES FOR INSTRUCTION.

The Institute now possesses facilities for giving laboratory instruction in applied science in the following departments:

I. IN AGRICULTURE AND HORTICULTURE.

The farm contains 304 acres, and is supplied with illustrative specimens of stock of select varieties.

The agricultural experiment station, established in connection with the College, where experiments and scientific investigations relating to agriculture are daily made, affords unusual opportunities to students to become familiar with agriculture, its defects and remedies.

The students of agriculture accompany the professor in the field, garden, conservatory, stock-yard, etc., where lectures are delivered in the presence of the objects discussed, and during the year exercises in practical agriculture of an educational character are given the students who enter upon this course of study.

II. IN MECHANIC ARTS.

The laboratory of mechanic arts is used as an auxiliary in industrial education, and as a school of manual training in the arts that constitute the foundation of various industrial pursuits. The work performed by the students is instructive in character, as in any other laboratory, and the classes are taught in sections by a series of graded lessons under the supervision of the professor. In the lower classes of the Institute each student enters this school and is assigned three exercises a week, each exercise being two hours long.

The object of this laboratory is not to teach a trade, but to educate, to discipline and train the eye and the hand, as well as the mind, and thus by associating manual and mental training, to educate thoroughly the student for the duties of life, whatever may be his vocation. There is no attempt to teach students special skill in constructing articles of commercial value, but all the exercises are systematically arranged and designed for purposes of education.

The wood department is located in a commodious hall, 90x59 feet, and is provided with a twenty-five horse-power Corliss engine, a planer, circular saw, band-saw, a buzz planer, a pattern maker's lathe, twenty-four stands, each with a lathe and a full set of tools, and thirty benches for carpenter work with the tools requisite for construction.

A brick building, 52x87 feet, with two rooms, has been constructed especially for instruction in working iron.

One room is equipped with twenty-four forges and tools required for a forge department, and the other with a Colliau cupola furnace, a core oven, a brass furnace, molding benches, foundry crane constructed by students, and special tools for use in a foundry.

The forge and foundry rooms are furnished with a fan and exhauster, supplied with power from an engine constructed by the students in mechanic arts.

The machine department occupies a brick building, 30x100 feet, and is equipped with eleven engine lathes, one speed lathe, one 20-inch drill press, one 10-inch sensitive drill, one 16-inch shaper, one 5-foot planer, one 6-foot planer, one universal milling machine, a corundum tool grinder, a small emery grinder, a No. 1 Brown

& Sharpe universal grinding machine, a universal cutter and reamer grinder, and a power hack saw.

The chipping and filing department is arranged with benches, vises and tools for eighteen students.

The tool room is well supplied with special tools for use in instruction, including a machine for grinding twist drills. The rooms are lighted with electricity whenever necessary.

III. IN PRACTICAL CHEMISTRY.

The chemical laboratory is supplied with modern apparatus, and in its equipment affords excellent facilities for instruction in practical chemistry and for investigation.

The investigations that are undertaken in this laboratory by scientific experts, in connection with the work of the agricultural experiment station, are of especial value to advanced students, and afford them unusual opportunities to learn the methods of scientific research.

The building contains a large general laboratory that accommodates sixty students, a special laboratory for Seniors that will accommodate thirty students, a lecture room with a capacity for one hundred seats, and nine other rooms, all appropriated to instruction and research in chemistry.

IV. IN ELECTRICAL ENGINEERING.

The electrical laboratory is well supplied with modern appliances for instruction in electrical engineering. It occupies three large rooms in the basement and is equipped with many fine instruments of precision.

In addition to resistance boxes, bridges, condensers, galvanometers, dynamometers, wattmeters, photometers, and other laboratory instruments, the department is supplied with representatives of the best types of commercial electrical instruments from foreign and domestic makers.

The laboratory is also equipped with apparatus for making breakdown tests of insulating materials, up to 30,000 volts, also with spectroscopic apparatus for testing the quality of arc light carbons.

The dynamos occupy a separate building and are operated by a twenty-five horse power Atlas engine, and a sixty horse power Harrisburg standard engine. In this building are installed the following dynamos:

Edison compound 12 Kilo-watt generator, Thompson-Houston 150 light 110 volt dynamo, Weston 150 volt 25 ampere generator, Crocker-Wheeler one horse power motor, Ideal 3 phase alternator, Brush 6 arc light dynamo with lamps, two Baxter street car motors, 20 horse power each (so connected as to be used as direct or alternating current motors or generators), one 5 horse power three phrase motor, one General Electric 20-horse power motor, one 40 light shunt dynamo, one Edison 3 Kilowatt generator, one Stanley induction motor with condensers, two bi-phase induction motors (built by students), one 9 light Thompson-Houston arc machine, one Fort Wayne 1 horse power alternating current motor, a number of transformers, etc., two phase alternator and 500 volt 20 ampere generator, made by students. There is also in connection with this department at the experiment station, a ten horse power motor, made by students, which is operated by the 500 volt generator in the dynamo room.

V. IN PHYSICS.

The physical laboratory occupies two rooms, one of these being permanently darkened for experimental work in light.

It is equipped with numerous standard instruments of precision, such as verniers, micrometers, cathetometers, a horizontal comparator, a Kater's reversion pendulum, balances, etc., and a quantity of minor apparatus.

Recently there has been added a concave grating spectrograph, a large induction coil of 12 inch spark, and other apparatus of value.

VI. IN MINERALOGY.

This laboratory occupies a convenient room in the basement, and is provided with tables and appliances to accommodate thirty students, with an excellent collection of minerals.

VII. IN BOTANY.

In the work of the agricultural experiment station there is a botanical garden under the charge of the professor of botany; investigations in botany are given special attention, and opportunities are offered advanced students for practical work in a laboratory especially fitted with microscopes, tables, a dark room for photographic work, and appliances needed for instruction and research. This department is provided with Auzoux's elastic models of seeds and flowers for teaching botany.

VIII. IN BIOLOGY.

The laboratory for plant morphology, histology, and pathology adjoins the lecture room of the professor, and is well equipped with appliances for the investigation of these subjects.

A small laboratory and adjoining greenhouse are being thoroughly equipped for work in experimental plant physiology and pathology. It is hoped that during the coming year excellent facilities may then be offered for the study of these objects.

IX. IN ENGINEERING AND SURVEYING.

The necessary apparatus for field work, including transits, levels, plane table, models of bridges, etc., is provided for the use of the students, and the customary exercises in the field are given.

X. IN DRAWING.

All students in the lower classes are required to take drawing, a study which tends to discipline the mind, as well as to train the eye and hand to accuracy of observation and execution. A large, well-lighted drawing room, which will accommodate fifty students, is provided with tables, lock-boxes, etc.

XI. IN MECHANICAL ENGINEERING.

The mechanical course has been extended to include experimental work in mechanical engineering.

The apparatus available for this instruction is as follows: A 45-horse power Imperial Cross compound engine, specially arranged for experimental work, supplied with Wheeler surface condenser and Worthington air pump and circulating pump, a 25-horse power Harris-Corliss engine, a 35-horse power Westinghouse engine, two 9-horse power engines constructed by students, the 100-horse power boiler belonging to the regular power plant, a Deane duplex steam pump, a 4-horse power gasoline engine, an Ericsson hot air engine, a New York air pump, a Westinghouse air pump, four steam engine indicators, a separating calorimeter, thermometers, a pyrometer, scales, a standard steam gauge with apparatus for testing steam gauges, a Crosby dead weight tester with weights for correcting the standard gauge, a 35,000-pound testing machine, a Henning micrometer extensometer, and a Carpenter calorimeter with the necessary auxiliary apparatus for determining the heating value of different kinds of coal.

This work is now carried on in the lower story of the annex to the chemical laboratory. This room is 30x60 feet in size, and was specially designed and fitted up for this purpose. A three-inch steam main has been laid from the boiler house, thus securing a steam supply in the building for all work requiring it. The work is thoroughly practical, and it is desired to extend it as rapidly as the funds available for the purchase of apparatus will allow.

XII. IN PHYSIOLOGY AND VETERINARY SCIENCE.

There has been constructed for the veterinary department a new and separate two-story building with nine rooms. It is provided with lecture room, office, working and operating rooms for clinical practice, and museum with skeletons of the domestic animals for instruction. Free clinics are given every Saturday for the benefit of the students in veterinary science.

There is a separate dissecting room constructed, with cement floor and north roof light especially for this department. This Laboratory is used by the professor and students each afternoon for three months.

XIII. IN PHARMACY.

The laboratory of this department occupies the second floor of the annex to chemical laboratory, and is provided with a sufficient supply of drugs and apparatus necessary for instruction in pharmaceutical preparations.

The students work in the laboratory with the professor, from five to eight hours, six days in the week.

The facilities are increased as means are available.

MILITARY TACTICS.

Instruction in this department is given in conformity with the act of Congress. Students receive the benefit of regular military drill, and in addition the military system is used as a means of enforcing discipline and securing good order, promptness and regularity in the performance of academic duties.

This department is supplied with cadet rifles and accoutrements for the corps.

COLLEGE BUILDINGS.

The frontispiece is a representation of the main College building. It is 160x71 feet, and contains forty-five rooms. This building is not used for dormitories for students, but is appropriated to purposes of instruction and investigation.

It contains the lecture rooms and offices of the professors, laboratories, library, museum, armory, etc.

LANGDON HALL.

This is a two-story building, 90x50 feet. The second story is the audience hall, used for commencement and other public occasions. The first story is appropriated to the laboratory of mechanic arts.

THE CHEMICAL LABORATORY.

As shown on the opposite page this is a two-story structure, 40x60 feet, with a rear projection, 35x60 feet, of one-story and basement, and contains eight rooms. The exterior is of pressed brick, with cut stone trimmings and terra cotta ornamentation.

In the basement are ample accommodations for assaying and storage.

The main laboratory will accommodate sixty students, and contains improved working tables, with water, gas and every necessary appliance for chemical work.

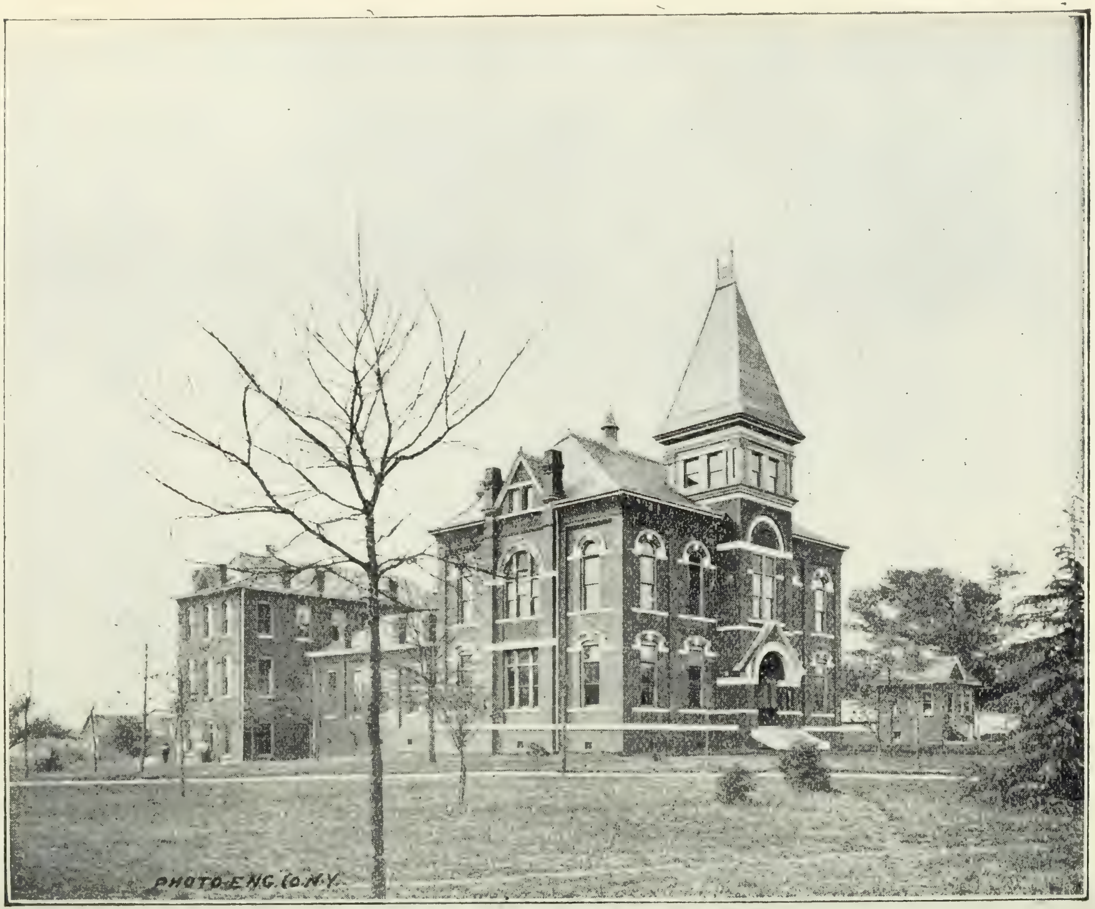
The laboratory for advanced work in chemistry will accommodate thirty students and is equipped in the same manner. Adjoining this are two rooms which are used respectively as a balance room, and a room for work with spectroscope, polariscope, etc.

The second story contains a lecture room with seats and tablets for eighty students. Around the lecture room are cases containing crude and manufactured products, illustrating agricultural and mechanical chemistry, prominent subjects taught in the institution.

ANNEX TO CHEMICAL LABORATORY.

This is a three-story brick building, containing rooms for pharmacy, mechanical engineering and drawing.

The Chemical Laboratory for the Agricultural Experiment Station occupies a building 60x26 feet and is appropriated exclusively for chemical investigation and research, and not for instruction.



CHEMICAL LABORATORY.

THE
JOHN CRERAR
LIBRARY

HONOR ROLL FOR CONDUCT, 1902.

The names of the following cadets, who have received no demerits during the year, are placed upon the honor roll for good conduct:

SUB-FRESHMAN CLASS.

Hixon, C. B.
Holt, J. E.
Jackson, C. E.
Nelson, A. B.
Rhodes, C. E.
Wilson, W. S.
Webb, T. J.
Webb, E. F.

SPECIAL STUDENTS.

Bonner, W. J.
Crumpler, L. H.
McLeod, H.
Jackson, E. C.
McNeel, A. M.
Owen, W. F.
Sawyer, B. R.
Steele, B. W.

FRESHMAN CLASS.

Allison, H. A.
Campbell, B. M.
Going, W. S.
Greene, J. B.
Hanby, E. K.
Jackson, C. J.
McAdory, I. S.
Meredith, W. M.
Middleton, F. S.
Newman, F. F.
Robinson, J. L.
Riley, T. A.
Rogers, C. M. A.
Thomas, A. L.
Wood, J. W.

SOPHOMORE CLASS.

Burke, R. P.
Chipley, D.
Davis, H. E.
Foss, G. B.
Hill, G. B.
Hudson, J. D.
Hunt, F. E.
Kauffman, R.
Matson, T. H.
Mitchell, J. H.
Rigney, P.
Rutledge, C. P.
Thornton, W. L.
Turnley, W. M.
Yonge, H. M.

JUNIOR CLASS.

Atkinson, F. C.
Ellis, M.
Collins, C. A.
Dawson, R. G.
Feagin, C. E.
Hamilton, W. B.
Herndon, D. T.
Kyser, J. A.
Lide, M. J.
Snedecor, G. W.
Webb, J. O.
Willis, W. D.
Yonge, J. E. D.

SENIOR CLASS.

Arnold, R. T.
Bradford, K.
Bragg, T.
Conner, H. H.
Eagar, W. H.
Felton, L. M.
Foy, J. D.
Haigler, W. H.
Haley, P. S.
Jackson, A. F.
Jackson, J. B.
Kahn, M. D.
Kauffman, C.
Killebrew, E. S.
Letcher, J. T.
Lindrose, K. E.
Noll, W. L.
McCrary, W. D.
McGehee, W. B.
Parker, D. J.
Phelps, J. C.
Stickle, H. S.
Turpin, M. C.
Werner, H. E.
Whitfield, G.
Williams, J. C.

GRADUATES IN 1901.

CLASS OF 1901.

HONORS.

Members of the Senior Class who attained distinction with a grade of 95 per cent. are Graduates with Highest Honor. Those who attained a distinction with a grade of 90 per cent. and less than 95, are Graduates with Honor. Those who attained less than 90 per cent. and more than 60 per cent. are Graduates.

DEGREES.

BACHELOR OF SCIENCE.

GRADUATES.

Robertson Tanner Arnold	Florida
Idaline Bell	Lee
Kenneth Bradford	Montgomery
Samuel Hamner Browne	Tuscaloosa
Salmon Holmes Burns	Lee
David James Castleman	Hale
LeRoy Madison Felton	South Carolina
James Olney Goggans	Tallapoosa
Walter Lee Greene	Lee
William Hope Haigler	Montgomery
Michael Smith Harvey	Lee
Charles Henry Haynes	Bullock
Daniel Hagood Haynes	Dallas
Arber Samuel Hertz	Georgia
Robert Holland Hood	Jefferson
Arthur Flournoy Jackson	Georgia
James Baxter Jackson	Lee
Jefferson Franklin Jones	Sumter
Claude Kauffman	Mobile
Emmett Stephens Killebrew	Dale
William Reid Lancaster	Lee

Walter Deems McCrary	Lee
William Boyd McGehee	Montgomery
Benjamin Baldwin Meriwether	Montgomery
Isaac Lenoir Moore	Lee
Merrill Hastings Moore	Montgomery
William Louis Noll	Tennessee
James Cochran Phelps	Lee
James Blackmon Powell	Bullock
Shepherd Harrison Roberts	Montgomery
Harvey Owen Sargent	Franklin
Lyman Hall Shaw	Sumter
Henry Alexander Skeggs	Morgan
Matthew Scott Sloan	Mobile
Holland McTyeire Smith	Lee
Louis Sternfeld	Montgomery
Leonidas Wharton	Cherokee
Gaius Whitfield	Marengo
Jere Crawford Williams	Lee
John Rutledge Williams	Jefferson
Edward Houston Wills	Lee

GRADUATES WITH HONOR.

Herschel Winston Bass	St. Clair
Thomas Bragg	Lee
Herschel Henry Conner	Macon
William Hamilton Eagar	Winston
Eugene Flynn Enslen	Jefferson
John Drewry Foy	Barbour
Myron Daniel Kahn	Lee
Karl Edward Lindrose	Mississippi
Dorsey Julian Parker	Escambia
Oscar Menderson Schloss	Barbour
John Hunt Skeggs	Morgan
Godfrey Rhodes Thomas	Sumter
Manly Curry Turpin	Virginia
Henry Edward Werner	Texas

GRADUATES WITH HIGHEST HONOR.

Paul Shields Haley	Walker
John Talbert Letcher	Macon
Abram Hill Mitchell	Lee

POST-GRADUATE DEGREE.

MASTER OF SCIENCE.

Idaline Bell	Lee
Emma Beall Culver	Lee
Charles Lewis Harold	Escambia
Mabel Heard	Lee
John William Jepson	South Carolina
Enoch Marvin Mason	Conecuh
James Richard Rutland	Chambers
Harvey Owen Sargent	Franklin

DISTINGUISHED STUDENTS.

DISTINCTIONS.

Students who receive a grade above 90 per cent. and less than 95 in three studies in the Freshman class, in four in the Sophomore class, in five in the Junior, and in six in the Senior, are distinguished for excellence in scholarship, and are awarded Certificates of Distinction. Those who receive a grade above 95 per cent. are awarded Certificates of Hignest Distinction.

JUNIOR CLASS.

DISTINCTION.

William Cruse Coles	Marshall
James Browder Garber	Hale
William Bulger Hamilton	Elmore
Gaston Joel Lipscomb	Marengo
Walker Dorr Willis	Florida

HIGHEST DISTINCTION.

Marvin Ellis	Morgan
James Allen Kyser	Dallas
Martin James Lide	Dallas
Richard Blount Shepard	Mobile
George Waddell Snedecor	Jefferson
John Eayres Davis Yonge	Florida

SOPHOMORE CLASS.

DISTINCTION.

Rush Pearson Burke	Montgomery
Dudley Chipley	Florida
Sidney Cornell	Jefferson
Howard Ellis Davis	Mobile
Thomas Joseph Dowdell	Montgomery
George Bridges Foss	Etowah

Roy Kauffman	Mobile
Walter Joseph Knight	Mobile
William Lawson Thornton	Talladega

HIGHEST DISTINCTION.

None.

FRESHMAN CLASS.

DISTINCTION.

Julian Sidney Chambers	Montgomery
James Henderson Childs	Georgia
William Lawrence Dumas	Mobile
James Buchanan Green	Crenshaw
Chauncey Smith Joseph	Montgomery
John McDuffie	Monroe
Frederick Shealy Middleton	Chambers
Fenton Forest Newman	Talladega

HIGHEST DISTINCTION.

Frederick Emanuel Geibel	Montgomery
John William McConnell	Jefferson
William Martin Shepard	Mobile
Berner Leigh Shi	Georgia

SPECIAL STUDENTS.

DISTINCTION.

Ethel Julia Harwell	Lee
Mollie Hal Hollifield	Lee
Herbert McLeod	Pike
Sallie Fleming Ordway	Tennessee
Henry Sleeth Stickle	Lauderdale

CATALOGUE OF STUDENTS.

FOR SESSION OF 1901-1902.

GRADUATE STUDENTS.

(*Residence in Alabama when State is not given.*)

Name.	*Residence.*
Herschel Winston Bass	St. Clair
Idaline Bell	Lee
Jesse Wright Boyd	Lee
Mary Wright Boyd	Lee
Thomas Bragg	Lee
Marion Lara Brown	Georgia
Emma Beall Culver	Lee
James Olney Goggans	Tallapoosa
Paul Shields Haley	Walker
Michael Smith Harvey	Lee
Arthur Flournoy Jackson	Georgia
James Baxter Jackson	Lee
Kate Meade Lane	Lee
John Talbert Letcher	Macon
Karl Edward Lindrose	Louisiana
Frederick Greenville Matthews	Lee
Abram Hill Mitchell	Lee
Augustus Young Napier	Lee
James Cochran Phelps	Lee
Matthew Scott Sloan	Mobile
Henry Edward Werner	Texas
Edward Houston Wills	Lee

UNDERGRADUATE STUDENTS.

SENIOR CLASS.

Oliver Hannibal Alford	Marshall
William Marvin Askew	Georgia
Frederick Cornelius Atkinson	Dale
Charles Homer Billingsley	Elmore
Edward Lambeth Carroll	Florida
William Cruse Coles	Marshall
Clyde Allen Collins	Hale
Alpheus Mallette Davis	Florida
Robert Geoghegan Dawson	Montgomery
Jesse Duncan Elliott	Minnesota
Marvin Ellis	Morgan
James Douglas Farley	Lee
Clarence Eugene Feagin	Bullock
James Browder Garber	Hale
Arthur Rodfer Gray	Florida
Jeremiah Warren Gwin	Jefferson
William Houston Gwin	Jefferson
William Bulger Hamilton	Elmore
Clifton Duane Haynie	Lee
William Tillman Heard	Lee
Dallas Tabor Herndon	Henry
Mollie Hal Hollifield	Lee
Franklin Jerome Houston	Jefferson
Collins James Johnson	Missouri
Morris Ketchum	New York
Howard Malcolm Kilpatrick	Georgia
Martin James Lide	Dallas
Gaston Joel Lipscomb	Marengo
Earle Irwin McBryde	Wilcox
Thomas Michael McCarroll	Florida
Henry Bigham Park	Georgia
Douglass Welles Peabody	Illinois

George Clement Sequiera	Nicaragua
Brady Wilkinson Steele	Autauga
Richard Blount Shepard	Mobile
Enrico Alfonso Washington	Georgia
John Osceola Webb	Coosa
Walker Dorr Willis	Florida
John Eayres Davis Yonge	Florida

JUNIOR CLASS.

Albert Miner Avery	Florida
Marshall Leonard Bize	Georgia
James Victor Blackwell	Calhoun
Stewart Dixon Brown	Henry
†Ryland Crews Bryant	Jefferson
Rush Pearson Burke	Montgomery
Robert Wright Cabaniss	Jefferson
Thomas Arthur Caddell	Etowah
†William Julius James Chase	Georgia
Dudley Chipley	Florida
William Hudmon Cooper	Lee
Sidney Cornell	Jefferson
Charles Sanders Culver	Lee
Howard Ellis Davis	Mobile
William Watson Davis	Mobile
William Wert Dinsmore	Morgan
Thomas Joseph Dowdell	Montgomery
†William Eugene Finch	Florida
George Bridges Foss	Etowah
George Fouche Freeman	Cherokee
William Lanier Halsey	Madison
Earnest Cecil Haynie	Lee
Bell George Hazard	Calhoun
Henry Hiden	Jefferson
George Bloise Hill	Talladega
Wilburn Hill	Etowah

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† Not in full standing.

Alexander Grice Horn	Sumter
James Daughtry Hudson	Georgia
Roy Kauffman	Mobile
Walter Joseph Knight	Mobile
George Duncan Lesesne	Mobile
Percy McLean Marshall	Georgia
Winfield Scott Martin	Jefferson
John VanValkenburg Matthews	Madison
Robert Peyton Mims	Jefferson
John Harris Mitchell	Georgia
Thomas William Morgan	Jefferson
Frank Elmer Miller	Calhoun
Sallie Fleming Ordway	Tennessee
James Porter Paterson	Montgomery
†David Philips Pruett	Bullock
Wallace Powell Pruitt	Lowndes
†George Daniel Randle	Jefferson
John Patrick Rembert	Mississippi
Paul Rigney	Madison
William Richard Rison	Madison
Tod Hewitt Roberts	Jefferson
Carl Robinson	Tallapoosa
William Watson Rutland	Chambers
Clifford Philip Rutledge	Lee
Hans Schmidt	Jefferson
John Rice Searcy	Conecuh
Walter Otey Shivers	Perry
Edmund Rhett Taber	Montgomery
Edward Taylor	Marengo
Louis Earle Thornton	Florida
William Lawson Thornton	Talladega
Holmes Fielding Troutman	Georgia
Filo Harris Turner	Florida
William Micou Turnley	Elmore
Joseph Dorrah Walker	Jefferson
Henry Matthew Yonge	Florida

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† Not in full standing.

SOPHOMORE CLASS.

Henry Alexander Allison	Sumter
William Leroy Alston	South Carolina
John Shillman Arnold	Florida
Frank Gordon Bell	Lee
John Ambrose Beckham	Lee
William Arthur Branan	Georgia
Jefferson Edward Brown	Jefferson
Andrew Duke Cameron	Macon
†Borden Montgomery Campbell	Greene
Emmett Tulane Camp	Etowah
Julian Sidney Chambers	Montgomery
Alan Armistead Chester	New York
James Henderson Childs	Georgia
Victor Hugo Clements	Limestone
William Shapard Dowdell	Lee
William Lawrence Dumas	Mobile
George Dunglingson	Talladega
Verlie Roy Emrick	Jefferson
Devotie Glover Ewing	Lowndes
Edwin Washington Ewing	Lowndes
Clarence Evelyn Field	Jefferson
Walter Summerville Going	Jefferson
James Buchanan Green	Crenshaw
Heyman Hagedorn	Georgia
Leonard Park Hall	Jefferson
Walter Leonidas Harwell	Lee
Guy David Hawkins	Jefferson
†John David Hudson	Lee
Charles Jefferson Jackson	Montgomery
Donald Van de Water Jenkins	Talladega
Walter Wier Johnston	Calhoun
Allen Green Jones	Dallas
Hilary Boston Jones	Washington
Chauncey Smith Joseph	Montgomery

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† Not in full standing.

Isham Kimbell	Clark
Frank Ragan King	Jackson
Edward Philip Lacey	Jefferson
Harry Thomas Landrum	Jefferson
Tracy Lay	Etowah
Henry Richard Luscher	Mobile
Isaac Sadler McAdory	Jefferson
John William McConnell	Jefferson
John McDuffie	Monroe
Henry McDonnell	Madison
Thomas Pettus McElderry	Talladega
William Hugh McEniry	Jefferson
William Monroe Meredith	Greene
Arthur Wilhelm Merkel	Jefferson
Frederick Shealy Middleton	Chambers
William Pittman Moon	Coosa
Lee Penn Montgomery	Lee
Edward Owen Perry	Georgia
†Anderson Petrinovich	Mobile
Forney Renfro	Lee
Thomas Shepard Roche	Mobile
James Lon Robinson	Jefferson
Charles McPherson Rogers	Sumter
James Emmet Seale	Sumter
William Martin Shepard	Mobile
Berner Leigh Shi	Georgia
Washington Irving Shi	Georgia
Solomon Kauffman Simon	Marengo
†John Floyd Smith	Calhoun
Zachary Pope Smith	Jefferson
Paul Stewart	Jefferson
Joseph Churchill Strong	Mobile
John Randolph St. John	Mobile
Albert Lee Thomas	Lee

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† Not in full standing.

Thornton Albert Ward	Lee
William Francis Ward	Lee
†Francis Hobbs Watson	Dallas
William Clifford Wear	Lee
Robert Eubank Williams	Jefferson
John Mayer Wilson	Clark
William Mason Wilson	Etowah
Cullen Haddley Wimberly	Sumter
John Washington Wood	Jefferson

FRESHMAN CLASS.

Hiram Victor Arnold	Florida
Eric Alsobrook	Lee
Franklin King Beck	Wilcox
Frederick Rudolph Bell	Lee
Theodore Chesbro Bowling	Washington
James Seaborn Boyd	Montgomery
Thomas Cobb Bradford	Lee
Samuel Davis Brown	Georgia
Sylvanus Burney	Chambers
Dugald Herbert Carmichael	Jefferson
†Frank Furness Cawthon	Dallas
Lambert Alexander Chambliss	Autauga
Lemuel Jackson Cobb	Cherokee
Lynn Lewis Conner	Macon
Balius Pinckney Cooper	Washington
Robert Cummins	Dallas
†Edward James Duncan	Tallapoosa
Robert Lee Ellis	Autauga
James Chester Elmer	Mississippi
Edgar Ervin Esslinger	Madison
†Claud Belle Etheredge	Dallas
Willis Marone Etheridge	Calhoun
Frank Trimble Evans	Georgia
Bertram Ezekiel	Butler

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† Not in full standing.

Edgar Earl Ferrell	Greene
†John Heggie Findlay	Hale
Welham Humphrey Foy	Barbour
Mither William Francis	Randolph
†Benjamin Shields Gilmer	Choctaw
Frank Lovell Gonce	Tennessee
Edward Alexander Graham	Autauga
Edward Servanios Hitch	Georgia
†James Elliott Holt	Russell
Frank Parkinson Howard	Macon
Percy Wilbur Hudson	Lee
Frank Paul Hurt	Jackson
Charles Edwin Jackson	Madison
George Wallace Jackson	Lee
Frederick McClendon Jenkins	Georgia
Earl Eugene Jenks	Mobile
Arthur Dean Jones	Pike
Earl Kauffman	Mobile
Albert Roy Killebrew	Dale
Bertram Joseph Lane	Talladega
†McCloy Harding Martin	Lee
Coke Smith Matthews	Jefferson
Charles Whitaker May	Russell
George Elisha McCord	Jefferson
Richard McCulloh	Louisiana
Claude Cooper McLean	Covington
Louis Walton Montgomery	Lee
Harry Redwood Murray	Mobile
Cicero Lewis Nelson	Baldwin
John Haygood Paterson	Montgomery
Wert Horace Peace	Jefferson
John Henry Peebles	Limestone
Monroe Thomas Penn	Lee
Henry Clarence Perkins	Barbour

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† Not in full standing.

John Ross Philips	St. Clair
George Wallace Postell	Jefferson
John Henry Powell	Lee
Marshall Gowan Price	Marengo
Francis Esten Purifoy	Wilcox
Frank Bellamy Rutledge	Lee
Robert Hyde Sanders	Hale
Walter Robert Samford	Lee
Batt Lockard Spain	Texas
Linwood Seale	Sumter
Marvin Pearce Summers	Lee
Grover Cleveland Thompson	Macon
John Edward Thigpen	Lowndes
Henry Howard Thornton	Talladega
William Biggers Tucker	Lee
Perry Williams Turner	Colbert
Charles Spurgeon Waldrop	Jefferson
Walter Van Weatherby	Mississippi
Elbert Fain Webb	Cherokee
Fletcher Gordon Webb	Lee
James Samuel Webb	Lee
Samuel Borders Wilson	Talladega
John Douglas Wilkins	Marengo
*Edward Louis Wright	Lee
Oliver Earle Young	Sumter

SPECIAL AND IRREGULAR STUDENTS.

Abbreviations: Ph—Pharmacy; E. & M. E.—Electrical and Mechanical Engineering; C.—Chemistry; Ag.—Agriculture; C. E.—Civil Engineering; Mech. A.—Mechanic Arts; E. E.—Electrical Engineering.

Bessie Susan Alvis		Lee
Ralph Calloway Armstrong	Ph	Lee
Robert Trammell Babgy	C. E	Lee
Martin Vanburen Beason	Mech. A	St. Clair
Herman Davidson Blake	Mech. A	Florida

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* Deceased.

Hyman Blumberg		Chambers
William Bonner	E. & M. E	Wilcox
Marvin Fitzpatrick Boykin		Lee
Charles Franklin Bradshaw		Randolph
William Jefferson Bruister	Ag	Choctaw
Frank Barnard Clark		Mobile
Willis Gaylord Clark	E. & M. E	Michigan
William Rather Coleman	C. E	Colbert
Henry Denegre		Jefferson
Woodson Lea Ennis	Ag	Sumter
Arthur Fincher	Ph	Lee
James William Flanagan	Ph	Lee
Daisy Douglas Foster		Lee
Marcus Luculus Foster	E. E	Etowah
William Alexander Frazer	Ph	Lee
Charles Williams Gonce		Tennessee
Alexander Hamilton Green		Florida
Kernon Hugh Gaines		Chambers
Leonard Graham Gresham	Mech. A	Autauga
James Coulson Harper	C. E	Mississippi
Ethel Julia Harwell		Lee
Robert Hinton Hogg		Georgia
William Dana Hubbard	E. & M. E	Dallas
Mell Frazer Jackson	Ph	Lee
John Sandford Jewett	Ph	Florida
William Micou Jordan	Ph	Elmore
Walter Maurice Jones-Williams	E. E	Lee
William Jackson Marsh	Ph	Lee
Allen Davis McLain	Ph	Lee
Herbert McLeod	Ph	Crenshaw
Allen Massilon McNeel	E. & M. E	Montgomery
George Newburg Montgomery		Mobile
Jabez Curry Nelson	C. E	Jefferson

Fenton Forest Newman		Talladega
Louis Milton Noll	Ph.	Jefferson
Albert Welman Pratt	C.	Madison
Laurens Walter Pierce	E. & M. E.	Elmore
John Vincent Pierson	C.	Perry
Oscar Early Rutland	Mech. A.	Lee
William Harvey Robertson	Ph	Jackson
Benjamin Riley Sawyer	Ph.	Calhoun
Edward Ramsey Scott		Tennessee
Fletcher Porter Sewell	Ag.	Cherokee
Rufus Pew Shuptrine	Ph.	Dallas
Julian Cassius Smith	E. & M. E.	Macon
Hunter Molton Smith	E. E.	Jefferson
Robert Ware Sistrunk		Elmore
Quinton Sorrell	C.	Talladega
Cecil Pitts Stowe	Ph.	Lee
Benjamin Walton Taylor		Jefferson
Roy Lee Thornton	Ph.	Bullock
James Feagin Tompkins	Ag.	Lee
Alma Cole Tompkins		Lee
Conrad Lee Thompson		Mobile
James Cooper Usrey	Ph.	Jefferson
Fletcher Peavey Whatley	Mech. A.	Lee
Judson Franklin Webb	C. E.	Lee
St. John Wilson		Mobile
Walter Rivers Whitman	Ph.	Lee
Abner Melvin Windham	Ph.	Dale

SUB-FRESHMAN CLASS.

Leslie Sheldon Abercrombie	Macon
Leo Abraham	Montgomery
Thomas Eaton Alexander	Marengo
Ignacio Alfonso	Cuba
Otis DeWitt Alsobrook	Lee
Thomas Henry Bass	Butler

Walter Pendleton Bass	Butler
Conner Benbow	Crenshaw
Robert Leroy Bowling	Washington
Edwin Matherson Bragg	Lee
Edward Crawford	Florida
Charles Edward Crawford	Talladega
Benjamin Harris Cross	Lee
James Lile Cross	Lee
Shelby Montgomery Cullom	Jefferson
Benjamin Cropp Davis	Mobile
John Carter Detwiler	Montgomery
Walter Dean	Cullman
Pedro Echezabal	Cuba
George Hardaway Frazer	Lee
Raphael Garcia	Cuba
Edward Daniel Gates	Dallas
Raymond David Gillespie	Jefferson
Howard Wilson Going	Jefferson
William Minthon Goodger	Perry
Carlos Houghton	Cuba
Frank Brown Johnston	Dallas
Washington Cleveland Jones	Pike
Clyde White Jones	Bibb
Carter Wallace King	Florida
Michael King	Florida
Cornelius Malone	Greene
Ulysses Claud Martin	Dallas
Adalberto Masvidal	Cuba
John Quarterman McCaskill	Florida
Benjamin McMillan	Mobile
Frederick Augustus Miller	Covington
David Minge	Hale
William Leroy Mitchell	Lee
Vernon Moore	Hale
John Robbins Nettles	Monroe

James Hudson Otey	Perry
Thomas Henry Pattison	Lee
William Britain Powledge	Lee
Jesse Henry Pryor	Perry
Claude Hughes Scheiffelin	Mobile
Edward Cooper Smith	Georgia
Guy Clarence Stuart	Washington
Robert Wilson Trimble	Jefferson
Charles Winston Thompson	Macon
Carl Venable	Jefferson
Ross Myron Vest	Jefferson
James Pennington Vickers	Clark
Joaquin Nilo Vila	Cuba
Emique Vila	Cuba
Lee Anderson West	Perry
Willis Carter West	Perry
Dinnis Timothy Williamson	Covington

SUMMARY.

Graduate Students	22
Senior Class	39
Junior Class	62
Sophomore Class	77
Freshman Class	83
Special and Irregular Students	65
Total in College Classes	348
Sub-Freshman Class	58
Total	406

NUMBER OF STUDENTS IN EACH SUBJECT OF STUDY.

English	338	Geology	43
History	227	Civil Engineering	29
French	31	Electrical Engineering	57
German	38	Mechanical Engineer'g	55
Latin	101	Biology	12
Mental Science	8	Drawing	293
Political Economy	33	Mechanic Arts	267
Mathematics	333	Military Department	378
Chemistry	156	Mineralogy	21
Chemical Laboratory	146	Physical Laboratory	46
Agriculture	97	Physiology	83
Physics	216	Veterinary Science	17
Botany	109	Pharmacy	41
Horticulture	17	Bacteriology	15

RESIDENCE BY STATES.

Alabama	333
Georgia	24
Florida	23
Cuba	6
Mississippi	4
Tennessee	4
Louisiana	2
Texas	2
Missouri	1
Michigan	1
Illinois	1
New York	2
Nicaragua	1
Minnesota	1
South Carolina	1
	406

MILITARY ORGANIZATION.

1901-1902.

President,
*W. L. BROUN.

Acting President,
O. D. SMITH.

Commandant,
COL. B. S. PATRICK.

Surgeon,
J. H. DRAKE.

Battalion Staff:

Cadet Captain W. D. Willis, Assistant to Commandant.
Cadet First Lieutenant, D. W. Peabody, Adjutant.
Cadet Captain C. A. Collins, Quartermaster.
Cadet First Lieutenant M. Ketchum, Assistant Adjutant.
Cadet Sergeant W. J. Knight, Sergeant Major.
Cadet Sergeant L. E. Thornton, Quartermaster Sergeant.

Cadet Captains:

1. J. E. D. Yonge.
2. J. B. Garber.
3. W. C. Coles.
4. H. B. Park.

Cadet First Lieutenants:

1. J. D. Farley.
2. F. J. Houston.
3. J. O. Webb.
4. W. B. Hamilton.
5. D. T. Herndon.
6. B. W. Steele.
7. E. A. Washington.
8. E. I. McBryde.

Cadet Second Lieutenant:

1. E. L. Carroll.

Cadet First Sergeants:

1. H. E. Davis.
2. W. W. Davis.
3. D. Chipley
4. H. M. Yonge.

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*Died January 23, 1902.

Cadet Sergeants:

1. T. J. Dowdell.
2. A. M. Avery.
3. P. M. Marshall.
4. W. W. Rutland.
5. J. H. Mitchell.
6. W. L. Thornton.
7. E. Taylor.
8. W. W. Dinsmore.
9. J. D. Walker.
10. G. B. Hill, (Color Sergeant.)
11. P. Rigney.
12. R. P. Burke.
13. W. M. Turnley.
14. G. F. Freeman.
15. T. A. Caddell.
16. E. C. Haynie.
17. H. F. Troutman.

Cadet Corporals:

1. B. L. Shi.
2. J. H. Childs.
3. J. McDuffie.
4. F. S. Middleton.
5. W. L. Dumas.
6. C. S. Joseph.
7. W. M. Wilson.
8. J. L. Robinson.
9. T. Lay.
10. J. S. Chambers.
11. W. S. Going.
12. C. J. Jackson.
13. T. P. McElderry.
14. H. R. Luscher.
15. A. G. Jones.
16. W. L. Harwell.

THE A. P. I. CADET BAND.

M. THOMAS FULLAN, Bandmaster.

J. C. HARPER, Principal Musician.

R. C. Armstrong.
H. V. Arnold.
F. C. Atkinson.
A. M. Avery.
F. G. Bell.
H. Blumberg.
L. J. Cobb.
M. Ellis.
V. R. Emrick.
G. H. Frazer.
W. L. Harwell.
G. D. Hawkins.
H. Hagedorn.
J. D. Hudson.
A. W. Merkel.
G. N. Montgomery.
J. P. Rembert.
G. C. Sequiera.
S. K. Simon.
J. R. St. John.
E. R. Taber.
A. L. Thomas.
A. Petrinovich.
W. V. Weatherby.

Cadets of the graduating class who were reported to the Adjutant General, U. S. Army, for publication in the "Official Army Register" as having ranked highest in the Military Department:

1889.	1890.
A. St. Dunstan.	F. D. Milstead.
B. H. Crenshaw.	J. W. Bivins.
A. J. Burr.	G. W. Emory.

1891.

L. E. Baker.
C. C. Johnson.
F. J. Bivins.

1892.

H. F. Dobbin.
A. L. Jones.
C. L. Brown.

1893.

Joel Dumas.
C. H. Smith.
J. F. Webb.

1894.

C. S. Andrews.
P. P. McKeown.
R. T. Dorsey.

1895.

S. L. Coleman.
H. H. Smith.
L. B. Gammon.

1897.

P. G. Clark.
G. M. Holley.
G. N. Mitcham.

1898.

A. H. Clark.
A. McB. Ransom.
John Haralson.

1899.

I. F. McDonnell.
A. H. Feagin.
T. W. Wert.

1900.

E. M. Mason.
H. P. Powell.
C. W. Nixon.

1901.

A. F. Jackson.
J. D. Foy.
P. S. Haley.

1896.

A. L. Alexander.
W. L. Fleming.
W. M. Williams.

REQUIREMENTS FOR ADMISSION.

All applicants for admission should present testimonials of good moral character, and those who come from other colleges must present certificates of honorable discharge.

To enter the Freshman class the applicant must be not less than fifteen years of age, and should be qualified to pass a satisfactory examination on the following subjects:

1. Geography and History of the United States.

2. English —(a) English grammar as contained in any standard text. (b) An examination upon sentences containing incorrect English. (c) A composition giving evidence of satisfactory proficiency in spelling, punctuation, grammar, and division into paragraphs.

(a) *Reading.* The composition of 1902 will be upon subjects drawn from one or more of the following works in English Literature: (1) Hughes's *Tom Brown at Rugby;* (2) Southey's *Life of Nelson;* (3) Shakespeare's *Julius Caesar;* (4) Longfellow's *Evangeline;* (5) Scott's *Ivanhoe;* (6) Shakespeare's *Merchant of Venice;* (7) Irving's *Sketch Book;* (8) Macaulay's *Essay on Milton;* (9) Scott's *Marmion;* (10) Dickens's *David Copperfield.*

The candidate will be required to present evidence of a general knowledge of the subject matter, and to answer simple questions on the lives of the authors. This part of the examination is intended only to test a general knowledge of the substance of the books.

(b) *Study and Practice.* This part of the examination presupposes the thorough study of the style of the work, and will be upon *Julius Caesar* and the *Essay on Milton.*

Preparation and examination on these works will be necessary before the student is classed as regular in any course.

3. Mathematics—(a) Arithmetic, including fundamental operations; common and decimal fractions; denominate numbers; the metric system; percentage, including interest and discount; proportion. (b) Algebra to quadratic equations; especial preparation is urged in *fundamental operations, factoring, multiples, divisors* and *fractions;* two books of geometry.

4. Those applicants who desire to continue the study of Latin should be qualified to pass a satisfactory examination in Latin grammar and the first two books of Cæsar, in addition to the above subjects.

In pronouncing Latin it is recommended that *ā* be pronounced as in *father*, *ă* as the *a* in *Cuba; ē* as in *prey; ĕ* as in *men; ī* as in *machine, ĭ* as in *cigar; ō* as in *old; ŏ* as in *obey; ū* as in *rule; ŭ* as in *full; j* as *y* in *yard; c* always as *k* in *king; g* always as *g* in *get.*

For admission to the higher classes, students should be prepared to stand satisfactory examination in all of the studies of the lower classes, as shown in the course of study. Students applying for admission to the sophomore class will be examined in mathematics through quadratic equations and logarithms in Algebra, and on seven books in geometry. Where opportunity has not been offered to pursue special studies required at this College, the system of equivalents will be adopted, and studies which denote an equivalent amount of discipline and training will be accepted as satisfactory. But if not prepared to pass an examination in history and chemistry at the time of application, the applicant will be required before graduation to pass a satisfactory examination on these subjects.

It is absolutely essential that students who hope to succeed should be well grounded in Arithmetic, Algebra, and Geometry.

A working knowledge of the metric system should also be obtained.

ADMISSION ON CERTIFICATE.

Appicants will be admitted without examination on presenting a certificate from any of the CERTIFICATE SCHOOLS named herein.

The following educational institutions having made application to be correlated to this College and having presented an approved course of study, are hereby declared to be CERTIFICATE SCHOOLS, and are granted the privilege set forth in the following:

"Students from certificate schools will be admitted to the fresh-
" man class *without examination* upon the certificate of the presi-
" dent or principal showing definitely that such students have
" completed satisfactorily all the studies required for admission, as
" stated in the catalogue and are otherwise admissible."

The privilege of admitting students of the Sophomore class on certificate will be granted only to those approved schools that have had a continuous existence for five years or more and have previously had pupils admitted to that class without conditions.

The following form of certificate will be used:

I hereby certify that A............., B............has attended the (*name the school or academy*) for...........years and has studied the following subjects:

in History..................................(*name the books*)
in English..................................(*name the books*)
in Algebra...........................(*state amount accomplished*)
in Geometry.........................(*state amount accomplished*)
in Latin..................................(*state books read*)
and having passed a satisfactory examination on these subjects as required in the Catalogue for admission to the ....class, I recommend him for the same.

Admission by certificate is regarded as provisional.

That is, though admitted to the class for which the certificate calls, the applicant may be required to take special examination in any subject in which his preparation proves unsatisfactory, or, after a fair trial, he may be dropped to a lower class, if he fails to maintain standing in the class to which he may be admitted.

CERTIFICATE SCHOOLS.

University Military School, Mobile	J. D. Wright.
Verner Military Institute, Tuscaloosa	W. H. Verner.
University School, Montgomery	J. M. Starke.
Mt. Willing High School, Mt. Willing	J. Knight.
State Normal School, Jacksonville	C. W. Daugette.
Male Academy, Huntsville	F. Puryear.
Furman Academy, Livingston	L. A. Cockrell.
High School, Opelika	J. M. Smallwood.
University Military School, Clanton	E. Y. McMorries.
Eighth District Agricultural School, Athens	M. K. Clements.
Sixth District Agricultural School, Hamilton	G. A. Holley.
Eutaw Male Academy, Eutaw	H. C. Horton.
Boys' High School, Anniston	H. C. Gunnels.
Taylor's School, Birmingham	W. P. Taylor.
University High School, Birmingham	I. J. White, M. B. Dickinson.
Fourth District Agricultural School, Sylacauga	A. G. Seay.
Gaylesville High School	John R. Ray.
Carrollton Academy	L. V. Rosser.
Ninth District Agricultural School, Blountsville	J. A. B. Lovett.
Gadsden High School	I. W. Hill.
Boyd High School, Ramer	B. H. Boyd.
Dadeville High School	J. D. Lane.
Prattville High School	A. W. Holstun.
Eufaula High School	F. L. McCoy.
Union Springs High School	J. M. Sanders.
Montgomery High School	C. L. Floyd.
Calera Academy	C. C. Slaton.
Southern Agricultural School, Abbeville	J. B. Murphy.
Barnes's School, Montgomery	E. R. Barnes.
Jackson Agricultural School	J. B. Murphy.
Spring Lake School	W. C. Griggs.
Pensacola Classical School	H. C. Armstrong.
Eufaula District Academy	R. E. Brooks.

ADMISSION OF YOUNG WOMEN.

The privilege of becoming students in this college is granted by the Trustees to young women of mature mind and character, on the following conditions:

The applicant must be seventeen years of age, and if a candidate for a degree, be able to pass a satisfactory examination in each of the four subjects as named below.

If the applicant is a candidate for admission as a special or irregular student, she must be able to pass a satisfactory examination in two of the subjects named, and may be admitted at an age less than seventeen, with a resident of Auburn acting as guardian, if application is approved by the Faculty.

(a) In English—Proficiency in spelling and punctuation; Grammar (Lockwood-Whitney); Rhetoric (Lockwood's Lessons and Carpenter's Rhetoric); Scudder's Masterpieces of American Literature; Syle's From Milton to Tennyson.

For requirements in reading in literature see page 41.

(b) In History—Macy's Our Government; Chambers's History of the United States; Myers's General History.

(c) In Mathematics—Arithmetic; Algebra, including quadratic equations, logarithms and series; Plane and Solid Geometry; Plane and Spherical Trigonometry, as in Wentworth.

(d) In Latin—Grammar, including the forms and syntax; Jones's Latin Prose Composition; translation of selections from Cæsar, Nepos, Virgil, Cicero's Orations, Cicero's Letters, or the equivalent.

The equivalents of these subjects, as in above text-books, may be substituted.

Botany will constitute a required part of the general course for young women who are candidates for a degree.

When admitted, upon complying with the conditions above stated, they may enter upon the study of any subject taught in the College and join any class, for which, upon examination, they may be found qualified. The only condition imposed will be that they engage in earnest study, and attend the exercises regularly. They will board in the town with private families and attend college only at the hours of their exercises.

ENTRANCE EXAMINATIONS.

Entrance examinations will be held on Wednesday, the 10th of September, the day on which the session opens. Candidates will also be examined during the session, when application is made for admission.

Applicants who are not prepared to stand the entrance examinations for full admission to the freshman class are admitted to the sub-college department, provided they are fifteen years of age, and are found after examination qualified to profit by the instruction given. Those who, after admission, are inattentive to their studies, and neglectful of their duties will be required to withdraw, but those who are studious and make sufficient progress will be advanced to full admission to the freshman class when they are qualified to pass satisfactorily the required examinations.

Students, upon their arrival at Auburn, will report immediately to the President. No student will be admitted to a recitation in any class previous to matriculation.

NUMBER OF EXERCISES REQUIRED.

All students are required to have not less than fifteen recitations per week, or their equivalent, in addition to the exercises in laboratory work, drawing and military drill. These additional exercises occupy not less than twelve hours per week, and in all give twenty-seven to thirty hours per week required in college exercises.

SPECIAL AND IRREGULAR STUDENTS.

The privilege of electing studies in the lower classes is not granted to young students nor to their parents.

The Faculty will assign a student, on admission, to that class of a prescibed course for which he is qualified; and for special reasons, approved by the Faculty, he may be permitted to become irregular.

Students qualified to prosecute the studies of the junior class, and those over twenty-one years of age that are not candidates for a degree, are permitted to take, with the advice of the Faculty, the subjects of study for which they may be qualified.

For an applicant to enter upon the study of Electrical and Mechanical Engineering as a special or irregular student, he must have studied algebra through quadratics and logarithms, plane geometry, and plane trigonometry.

The professor in charge of a department will decide by examination whether a special student is prepared for admission to his class.

A student who does not take all the studies in a class of one of the degree courses, as prescribed in the catalogue, and is permitted to take an irregular course, will be assigned to a member of the Faculty, who will act as his special adviser, and when his course of study has been approved by the Faculty, no other change will be permitted without the endorsement of his adviser.

Regular students who fail to pass satisfactory final examinations in any one study become irregular students. They will be classed as regular students pursuing a course for a degree, whenever they can pass the examinations in those subjects in which they were found deficient.

Students, candidates for a degree, who are not in full standing in all the prescribed studies of a class, rank in the military department with that class in which they have the greatest number of studies, and their names are so placed in the catalogue.

ADMISSION TO HIGHER CLASSES.

At the beginning of each term a student in the sub-freshman class may, on application approved by the Faculty, be examined for admission to the freshman class in history, English, mathematics, and be admitted to the freshman class in that subject only.

Students who have completed satisfactorily all the studies of the sophomore class, as prescribed in the catalogue, in any one of the regular degree courses, can enter, without condition, the junior class in any course, except in the general course, or the course in pharmacy, in which Latin is required.

Students who are admitted to the junior class from other institutions, on examinations in English, Latin, and mathematics, and who have not completed all the studies of the sophomore class, in order to graduate, will be required to complete the course in chemistry and history as taught in the sophomore class.

COURSES OF INSTRUCTION.

The courses of study include the Physical, Chemical, and Natural Sciences, with their applications; Agriculture; Biology; Mechanics, Astronomy, Mathematics; Drawing; Civil, Electrical, and Mechanical Engineering; Physiology and Veterinary Science, Pharmacy; English, French, German and Latin Languages; History, Political Economy; Mental and Moral Sciences.

The studies are arranged in regular courses so as to offer liberal and practical education as a preparation for the active pursuits of life.

There are six degree courses for undergraduates, each leading to the degree of Bachelor of Science, (B. Sc.) and requiring four years for its completion.

I. COURSE IN CHEMISTRY AND AGRICULTURE.
II. COURSE IN CIVIL ENGINEERING.
III. COURSE IN ELECTRICAL AND MECHANICAL ENGINEERING.
IV. GENERAL COURSE.
V. COURSE IN PHARMACY.
VI. COURSE IN CHEMISTRY AND METALLURGY.

There are also three partial courses, each requiring two years for its completion:

VII. TWO-YEAR COURSE IN AGRICULTURE.
VIII. TWO-YEAR COURSE IN MECHANIC ARTS.
IX. TWO-YEAR COURSE IN PHARMACY.

Course I. includes theoretical and practical instruction in those branches that relate to chemistry and agriculture, and is especially adapted to those who propose to devote themselves to agriculture or chemical pursuits.

Course II. includes the principles and applications of the sciences that directly relate to civil engineering, and is adapted to those who expect to enter that profession.

Course III. includes, besides the general principles and applications of the sciences, a special course in the applications of electricity and mechanics, and is arranged for the profession of electrical and mechanical engineering.

Course IV. has been arranged to give a general and less technical education in subjects of science and language to meet the wants of those students who have selected no definite vocation in life, as well as of those who propose ultimately to engage in teaching or in some commercial or professional business.

Course V. includes, besides the general education of course IV. in the lower classes, a special course in pharmacy and chemistry, and is adapted to those who expect to become pharmacists, manufacturing chemists, or to enter upon the study of medicine.

Course VI. provides for thorough theoretical and practical instruction in pure and technical chemistry and metallurgy, and in the scientific branches relating thereto. Students taking this course also pursue the study of German and French during the Junior and Senior years, and are thus prepared to utilize for reference the scientific journals and works published in those languages.

Courses VII. VIII. IX. have been arranged for the benefit of those students who, for reasons satisfactory to themselves, are unable to continue at college four years and to take one of the regular degree courses.

A student who completes satisfactorily all the work of the senior class in a department, including the laboratory work, will be awarded a certificate of proficiency in said subject.

Students who complete either of the two-year courses will, on passing a satisfactory examination, receive certificates indicating their attainments.

No degree or certificate of proficiency will be given in any course unless the applicant has passed a satisfactory examination in elementary English. Every candidate for a degree will be required to stand this special examination during the second term of the Senior year.

Declamations and themes or orations are required of all regular students pursuing courses leading to a degree.

POST-GRADUATE COURSES.

A more extended post-graduate course of study may be taken by a graduate of this College or of any other institution of equal grade. The completion of a course which leads to a post-graduate degree of Master of Science requires one year's residence at the College, spent in the satisfactory prosecution of a course of study, with such laboratory work as may be approved by the Faculty.

The candidate must also present to the Faculty a satisfactory thesis showing independent investigation upon some subject pertaining to his course, and must pass an examination, at the close of each term, on the course of study prescribed, in which he must attain a grade of 75 per cent. The examination is written, and also oral in the presence of the Faculty.

The subject of the thesis must be submitted to the Faculty for approval prior to January 1st, and the thesis given to the professor by May 1st.

Applicants for a post-graduate degree and special students in post-senior studies are subject to the general regulations as other students, and pay the same fees, but are exempt from all military duty.

The following courses are prescribed for the degree named:

1. *Master of Science.*—Studies in three departments, in two of which the candidate must have previously completed the full course of the senior class; or in special cases, with the approval of the Faculty, a student may devote his full time to work in two departments, in each of which he has completed the full senior course.
2. *Master of Science in Pharmacy.*—Pharmacy and Chemistry.
3. *Master of Science in Civil Engineering.*—Civil Engineering, Mathematics, Analytical Mechanics.

4. *Master of Science in Electrical and Mechanical Engineering.*—Electrical Engineering, Mechanical Engineering.

5. *Master of Science in Mining Engineering.*—Students who have receive the degree of B. Sc. in engineering, civil, or electrical and mechanical, or in the course of chemistry and mettallurgy, or who have prosecuted an equivalent course of study, can enter upon a special course of mining engineering, which includes the following subjects of study:

Industrial Chemistry, Analytic Chemistry, Assaying, Reduction of Ores, Mineralogy, Economic Geology, with practical work in the field, Mining Machinery with the applications of steam and electricity to the various operations connected with the exploitation of mines.

The student, if a candidate for a degree, will also be required to prosecute the necessary studies in that course of engineering in which he has not graduated. This course of study will be under the charge of the professors in the different engineering departments, the professor of Chemistry, and the professor of Mineralogy and Geology.

Special Students in Post-Senior Studies.—Students who are not graduates, but are qualified in special subjects to prosecute post-senior studies, and desire to prepare themselves more thoroughly for professional or special work in any one of the departments of engineering, in chemistry or pharmacy, veterinary science, or other subjects in which instruction is given, may, when qualified, with approval of the Faculty, enter this higher department of study and have all the privileges of post-graduate students.

A certificate of proficiency will be given when any one subject of a post-graduate course is satisfactorily completed.

Two degrees will not be given the same year.

PROFESSIONAL DEGREES.

The professional degree of Civil Engineer, Electrical Engineer, Mechanical Engineer, Mining Engineer, or Pharmaceutical Chemist will be given two years after receiving the degree of Master of Science, provided the intervening time of two years has been spent in a responsible position in practical engineering work in that department in which he received the degree of Master of Science, or in practical pharmacy, and an approved thesis is submitted to the Faculty, with a report of the character of the work done.

SPECIAL ONE-YEAR COURSE IN AGRICULTURE.

Young men over twenty-one years of age who desire to study agriculture will be permitted, without examination, to enter any class under the professor of agriculture, and will be excused from reciting in any other class, from military duty, and from all other college duties; but will be under the general college regulations, and will be required to have their time fully occupied.

They may attend the lectures in agriculture in all the classes and engage in the practical work at the experiment station, in the field, stock-yard, dairy, garden, orchard, vineyard, etc., and may thus, in one year, acquire valuable practical knowledge of scientific agriculture.

PHOTOGRAPHY.

During the session there will be given by Professor Mell a course of twelve lectures on photography. This course will be elective, and the instruction will be open to any student that may desire to learn how to make pictures. It will be necessary for each student to provide himself with an outfit that will cost from $11.50 to $16.00.

LABORATORY INSTRUCTION.

Laboratory instruction constitutes an important feature in the courses of education provided for the students of this Institute, and as far as possible all students are required to enter upon laboratory work in some one department.

Laboratory instruction and practical work are given in the following departments:

I. CHEMISTRY.
II. CIVIL ENGINEERING, FIELD WORK, SURVEYING, ETC.
III. AGRICULTURE.
IV. BOTANY.
V. MINERALOGY.
VI. BIOLOGY.
VII. TECHNICAL DRAWING.
VIII. MECHANIC ARTS.
IX. PHYSICS.
X. ELECTRICAL ENGINEERING.
XI. MECHANICAL ENGINEERING.
XII. PHYSIOLOGY AND VETERINARY SCIENCE.
XIII. PHARMACY.

NOTE.—Special work in English or History may be taken by students in the general course as a substitute for laboratory work.

I. COURSE IN CHEMISTRY AND AGRICULTURE.

The numerals opposite the subjects indicate the number of hours per week.

FRESHMAN CLASS.

First Term.	*Second Term.*	*Third Term.*
5. English.	5. English.	5. English.
2. History.	2. History.	3. History.
5. Mathematics.	5. Mathematics.	5. Mathematics.
3. Elementary Physics.	3. Elementary Physics.	2. Agriculture.
3. Drawing.	3. Drawing.	3. Drawing.
6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y.
3. Military Drill.	3. Military Drill.	3. Military Drill.

SOPHOMORE CLASS.

First Term.	*Second Term.*	*Third Term.*
3. English.	3. English.	3. English.
3. History.	3. History.	3. Botany (a).
5. Mathematics.	5. Mathematics.	5. Mathematics.
3. General Chemistry.	3. General Chemistry.	3. General Chemistry.
2. Agriculture.	2. Agriculture.	2. Agriculture (b).
3. Drawing.	3. Drawing.	3. Drawing.
2. Physiology.	2. Physiology.	2. Physiology.
2. Chemical Lab'y.	2. Chemical Lab'y.	2. Chemical Lab'y.
6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y.
3. Military Drill.	3. Military Drill.	3. Military Drill.

JUNIOR CLASS.

First Term.	*Second Term.*	*Third Term.*
3. English.	3. English.	3. English.
3. Physics.	3. Physics.	3. Physics.
3. Industrial Chemistry.	3. Industrial Chemistry.	3. Industrial Chemistry.
2. Agriculture.	2. Agriculture.	2. Horticulture.
4. Botany (Lab'y.)	4. Botany (Lab'y.)	4. Botany (Lab'y.)
1. Military Tactics.	1. Military Tactics.	1. Military Tactics.
9. Chemical Lab'y.	9. Chemical Lab'y.	9. Chemical Lab'y.
2. Veterinary Science.	2. Veterinary Science.	2. Veterinary Science.
2. Clinical Lab'y.	2. Clinical Lab'y.	2. Clinical Lab'y.
3. Military Drill.	3. Military Drill.	3. Military Drill.

SENIOR CLASS.

First Term.	*Second Term.*	*Third Term.*
2. English Literature.	2. Political Economy.	2. Political Economy.
2. Mental Science (d).	2. Mental Science (d).	2. Mental Science (d).
2. Physics.	2. Astronomy.	2. Astronomy.
2. Geology.	2. Geology.	2. Geology.
5. Biology.	5. Biology.	5. Biology.
2. Agricultural Chemis.	2. Agricultural Chemis.	2. Agricultural Chemis.
1. Military Science.	1. Military Science.	1. Military Science.
9. Chemical Lab'y.	9. Chemical Lab'y.	9. Chemical Lab'y.
2. Veterinary Science.	2. Veterinary Science.	2. Veterinary Science.
2. Clinical Lab'y.	2. Clinical Lab'y.	2. Clinical Lab'y.

(a) Begins March 1st. (b) Also Practical Agriculture.

(c) Begins Feb. 15th. (d) French or German may be substituted.

II. COURSE IN CIVIL ENGINEERING.

The numerals opposite the subjects indicate the number of hours per week.

FRESHMAN CLASS.

First Term.	*Second Term.*	*Third Term.*
5. English.	5. English.	5. English.
2. History.	2. History.	3. History.
5. Mathematics.	5. Mathematics.	5. Mathematics.
3. Elementary Physics.	3. Elementary Physics.	2. Agriculture.
3. Drawing.	3. Drawing.	3. Drawing.
6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y.
3. Military Drill.	3. Military Drill.	3. Military Drill.

SOPHOMORE CLASS.

First Term.	*Second Term.*	*Third Term.*
3. English.	3. English.	3. English.
3. History.	3. History.	3. Botany (a).
5. Mathematics.	5. Mathematics.	5. Mathematics.
3. General Chemistry.	3. General Chemistry.	3. General Chemistry.
2. Agriculture (b).	2. Agriculture (b).	2. Agriculture (b).
2. Physiology.	2. Physiology.	2. Physiology.
3. Drawing.	3. Drawing.	3. Drawing.
6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y.
2. Chemical Lab'y.	2. Chemical Lab'y.	2. Chemical Lab'y.
3. Military Drill.	3. Military Drill.	3. Military Drill.

JUNIOR CLASS.

First Term.	*Second Term.*	*Third Term.*
3. English, French or German.	3. English, French or German.	3. English, French or German.
3. Physics.	3. Physics.	3. Physics.
5. Mathematics.	5. Mathematics.	5. Mathematics.
5. Civil Engineering.	5. Civil Engineering.	5. Civil Engineering.
5. Drawing.	5. Drawing.	5. Drawing.
1. Military Tactics.	1. Military Tactics.	1. Military Tactics.
6. Lab'y. Mechanic Arts (c).	6. Lab'y. Mechanic Arts (c).	6. Lab'y. Mechanic Arts (c).
1. Field Work, Engineering.	1. Field Work, Engineering.	1. Field Work, Engineering.
3. Military Drill.	3. Military Drill.	3. Military Drill.

SENIOR CLASS.

First Term.	*Second Term.*	*Third Term.*
2. English Literature, (d).	2. Political Economy, (d).	2. Political Economy, (d).
2. Physics.	2. Astronomy.	2. Astronomy.
2. Geology.	2. Geology.	2. Geology.
3. Mathematics.	3. Mathematics.	3. Mathematics.

(a) Begins March 1st.

(b) For Agriculture may be substituted Physical Laboratory.

(c) Or Mineralogy.

(d) For Eng. Lit. and Pol. Econ. may be substituted for French or German.

5. Civil Engineering.	5. Civil Engineering.	5. Civil Engineering.
5. Drawing.	5. Drawing.	5. Drawing.
1. Military Science.	1. Military Science.	1. Military Science.
4. Mech. Eng., Lab'y. Field Work, Engineering.	4. Mech. Eng., Lab'y. Field Work, Engineering.	4. Mech. Eng., Lab'y. Field Work, Engineering.

III. COURSE IN ELECTRICAL AND MECHANICAL ENGINEERING.

The numerals opposite the subjects indicate the number of hours per week. In Freshman and Sophomore classes the same studies are prescribed as in Course II in Civil Engineering.

JUNIOR CLASS.

First Term.	*Second Term.*	*Third Term.*
3. English, French or German.	3. English, French or German.	3. English, French or German.
3. Physics.	3. Physics.	3. Physics.
5. Mathematics.	5. Mathematics.	5. Mathematics.
4. Electrical Engineering.	4. Electrical Engineering.	4. Electrical Engineering.
3. Mechanical Engineering.	3. Mechanical Engineering.	3. Mechanical Engineering.
4. Mechanical Drawing.	4. Mechanical Drawing.	4. Mechanical Drawing.
4. Electrical Lab'y.	4. Electrical Lab'y.	4. Electrical Lab'y.
6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y.
1. Military Tactics.	1. Military Tactics.	1. Military Tactics.
3. Military Drill.	3. Military Drill.	3. Military Drill.

SENIOR CLASS.

First Term.	*Second Term.*	*Third Term.*
2. Eng. Literature, (a).	2 Political Economy, (a).	2. Political Economy, (a).
2. Physics.	2. Astronomy.	2. Astronomy.
2. Geology.	2. Geology.	2. Geology.
3. Mathematics.	3. Mathematics.	3. Mathematics.
5. Electrical Engineering.	5. Electrical Engineering.	5. Electrical Engineering.
5. Mechanical Engineering.	5. Mechanical Engineering.	5. Mechanical Engineering.
2. Electrical Designing.	2. Electrical Designing.	2. Electrical Designing.
6. Electrical Lab'y.	6. Electrical Lab'y.	6. Electrical Lab'y.
4. Mech. Eng. Lab'y.	4. Mech. Eng. Lab'y.	4. Mech. Eng. Lab'y.
1. Military Science.	1. Military Science.	1. Military Science.

(a) French or German may be substituted.

IV. CHEMISTRY AND METALLURGY.

The numerals opposite the subjects indicate the number of hours per week. In the Freshman class and Sophomore classes the same studies are prescribed as in either course I in Agriculture and Chemistry or in course V in General Course.

JUNIOR CLASS.

First Term.	*Second Term.*	*Third Term.*
3. English.	3. English.	3. English.
3. Physics.	3. Physics.	3. Physics.
3. Industrial Chemistry.	3. Industrial Chemistry.	3. Industrial Chemistry.
2. Organic Chemistry.	2. Organic Chemistry.	2. Organic Chemistry.
3. German.	3. German.	3. German.
4.*Mineralogy (Lab'y.)	4. Mineralogy (Lab'y.)	4. Mineralogy (Lab'y.)
1. Military Science.	1. Military Science.	1. Military Science.
9. Chemical Lab'y.	9. Chemical Lab'y.	9. Chemical Lab'y.
3. Military Drill.	3. Military Drill.	3. Military Drill.

SENIOR CLASS.

First Term.	*Second Term.*	*Third Term.*
2. English and Literature.	2. Political Economy.	2. Political Economy.
2. Physics.	2. Physics.	2. Astronomy.
3. German.	3. German.	3. German.
2. Geology.	2. Geology.	2. Geology.
3. French.	3. French.	3. French.
2. Metallurgy and Engineering Chem.	2. Metallurgy and Engineering Chem.	2. Metallurgy and Engineering Chem.
1. Analytical Chemisty.	1. Analytical Chemisty.	1. Analytical Chemisty.
1. Military Science.	1. Military Science.	1. Military Science.
9. Chemical Lab'y.	9. Chemical Lab'y.	9. Chemical Lab'y.

V. GENERAL COURSE.

The numbers opposite the subjects indicate the number of hours per week.

FRESHMAN CLASS.

First Term.	*Second Term.*	*Third Term.*
3. English.	3. English.	3. English.
2. History.	2. History.	3. History.
3. Latin.	5. Latin.	3. Latin.
5. Mathematics.	5. Mathematics.	5. Mathematics.
3. Drawing.	3. Drawing.	2. Agriculture.
6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y.	3. Drawing.
3. Military Drill.	3. Military Drill.	6. Mechanic Art Lab'y.
		3. Military Drill.

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*Mechanic Art. Lab. may be substituted.

SOPHOMORE CLASS.

First Term.	*Second Term.*	*Third Term.*
5. Latin.	5. Latin.	5. Latin.
3. History.	3. History.	3. Botany (a).
5. Mathematics.	5. Mathematics.	5. Mathematics.
3. Gen'l. Chemistry.	3. Gen'l. Chemistry.	3. Gen'l. Chemistry.
3. Drawing.	3. Drawing.	3. Drawing.
6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y.
2. Chemical Lab'y.	2. Chemical Lab'y.	2. Chemical Lab'y.
3. Military Drill.	3. Military Drill.	3. Military Drill.

JUNIOR CLASS.

First Term.	*Second Term.*	*Third Term.*
3. English.	3. English.	3. English.
3. Physics.	3. Physics.	3. Physics.
3. Mathematics.	3. Mathematics.	3. Mathematics.
3. French.	3. French.	3. French.
3. German.	3. German.	3. German.
3. Latin.	3. Latin.	3. Latin.
1. Military Tactics.	1. Military Tactics.	1. Military Tactics.
6. Lab'y. Work (b).	6. Lab'y. Work (b).	6. Lab'y. Work (b).
3. Military Drill.	3. Military Drill.	3. Military Drill.

SENIOR CLASS.

First Term.	*Second Term.*	*Third Term.*
2. English.	2. Pol. Econ. (c).	2. Political Economy.
2. Mental Science.	2. Mental Science.	2. Mental Science.
2. Physics.	2. Astronomy.	2. Astronomy.
2. Geology.	2. Geology.	2. Geology.
3. French.	3. French.	3. French.
3. German.	3. German.	3. German.
2. Latin.	2. Latin.	2. Latin.
1. Military Science.	1. Military Science.	1. Military Science.
6. Lab'y. Work (b).	6. Lab'y. Work (b).	6. Lab'y. Work (b).

VI. COURSE IN PHARMACY.

The numerals opposite the subjects indicate the number of hours per week.

FRESHMAN CLASS.

First Term.	*Second Term.*	*Third Term.*
3. English.	3. English.	3. English.
2. History.	2. History.	3. History.
5. Latin.	5. Latin.	3. Latin.
5. Mathematics.	5. Mathematics.	5. Mathematics.
3. Drawing.	3. Drawing.	3. Drawing.
6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y.	2. Agriculture.
3. Military Drill.	3. Military Drill.	6. Mechanic Arts.
		3. Military Drill.

(a) Begins March 1st. (b) The student may elect the laboratory of any department for which he may be qualified. (c) Begins Feb. 15

SOPHOMORE CLASS.

First Term.	*Second Term.*	*Third Term.*
5. Latin.	5. Latin.	5. Latin.
3. History.	3. History.	3. Botany (a).
5. Mathematics.	5. Mathematics.	5. Mathematics.
3. Gen'l Chemistry.	3. Gen'l Chemistry.	3. Gen'l Chemistry.
2. Physiology.	2. Physiology.	2. Physiology.
3. Drawing.	3. Drawing.	3. Drawing.
6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y.
2. Chemical Lab'y.	2. Chemical Lab'y.	2. Chemical Lab'y.
3. Military Drill.	3. Military Drill.	3. Military Drill.

JUNIOR CLASS.

First Term.	*Second Term.*	*Third Term.*
3. Physics.	3. Physics.	3. Physics.
6. Chemical Lab'y.	6. Chemical Lab'y.	6. Chemical Lab'y.
4. Botanical Lab'y.	4. Botanical Lab'y.	4. Botanical Lab'y.
3. English (b).	3. English (b).	3. English (b).
3. Pharmacy.	3. Pharmacy.	3. Pharmacy.
9. Pharmaceutical Lab.	9. Pharmaceutical Lab.	9. Pharmaceutical Lab.
4. Pharmacognosy.	4. Pharmacognosy.	4. Pharmacognosy.
1. Military Tactics.	1. Military Tactics.	1. Military Tactics.
3. Military Drill.	3. Military Drill.	3. Military Drill.

SENIOR CLASS.

First Term.	*Second Term.*	*Third Term.*
5. Biology.	5. Biology.	3. Biology.
6. Chemical Lab'y.	6. Chemical Lab'y.	6. Toxicology.
5. Pharmacy.	5. Pharmacy.	5. Pharmacy.
12. Pharmaceutical Lab.	12. Pharmaceutical Lab.	12. Pharmaceutical Lab.
4. Pharmacognosy.	4. Pharmacognosy.	4. Pharmacognosy.
1. Military Science.	1. Military Science.	1. Military Science.
3. Materia Medica.	3. Materia Medica.	3. Bacteriology.

VII. TWO-YEAR COURSE IN MECHANIC ARTS.

FIRST YEAR.

First Term.	*Second Term.*	*Third Term.*
5. English.	5. English.	5. English.
2. History.	2. History.	2. History.
5. Mathematics.	5. Mathematics.	5. Mathematics.
3. Elementary Physics.	3. Elementary Physics.	2. Agriculture.
3. Drawing.	3. Drawing.	3. Drawing.
6. Mechanic Art Laby.	6. Mechanic Art Laby.	6. Mechanic Art Laby.
3. Military Drill.	3. Military Drill.	3. Military Drill.

SECOND YEAR.

First Term.	*Second Term.*	*Third Term.*
3. English.	3. English.	3. English.
5. Mathematics.	5. Mathematics.	5. Mathematics.
3. Physics.	3. Physics.	3. Physics.
3. Drawing.	3. Drawing.	3. Drawing.
12. Mechanic Art Lab.	12. Mechanic Art Lab.	12. Mechanic Art Lab.
3. Military Drill.	3. Military Drill.	3. Military Drill.

(a) Begins March 1st. (b) French or German may be substituted.

VIII. TWO-YEAR COURSE IN AGRICULTURE.

FIRST YEAR.

First Term.	*Second Term.*	*Third Term.*
5. English.	5. English.	5. English.
2. History.	2. History.	2. History.
5. Mathematics.	5. Mathematics.	5. Mathematics.
3. Elementary Physics.	3. Elementary Physics.	2. Agriculture.
3. Drawing.	3. Drawing.	3. Drawing.
4. Mechanic Art Lab'y.	4. Mechanic Art Lab'y.	4. Mechanic Art Lab'y.
3. Military Drill.	3. Military Drill.	3. Military Drill.
2. Practical Agriculture.	2. Practical Agriculture.	2. Practical Agriculture.

SECOND YEAR.

First Term.	*Second Term.*	*Third Term.*
3. English.	3. English.	3. English.
5. Mathematics.	5. Mathematics.	5. Mathematics.
3. Gen'l. Chemistry.	3. Gen'l. Chemistry.	3. Gen'l. Chemistry.
4. Agriculture.	4. Agriculture.	4. Agriculture.
2. Physiology.	2. Physiology.	2. Physiology.
2. Veterinary Science.	2. Veterinary Science.	2. Veterinary Science.
12. Practical Agriculture.	12. Practical Agriculture.	12. Practical Agriculture.
3. Military Drill.	3. Military Drill.	3. Military Drill.

IX. TWO-YEAR COURSE IN PHARMACY.

FIRST YEAR.

First Term.	*Second Term.*	*Third Term.*
3. Gen'l. Chemistry.	3. Gen'l. Chemistry.	3. Gen'l. Chemistry.
2. Chemical Lab'y.	2. Chemical Lab'y.	2. Chemical Lab'y.
3. English.	3. English.	3. Botany.
2. Physiology.	2. Physiology.	2. Physiology.
3. Pharmacy.	3. Pharmacy.	3. Pharmacy.
4. Pharmacognosy.	4. Pharmacognosy.	4. Pharmacognosy.
6. Mechanic Art Lab'y (a).	6. Mechanic Art Lab'y (a).	6. Mechanic Art Lab'y (a).
3. Military Drill.	3. Military Drill.	3. Military Drill.

SECOND YEAR.

First Term.	*Second Term.*	*Third Term.*
5. Pharmacy.	5. Pharmacy.	5. Pharmacy.
5. Pharmacognosy.	5. Pharmacognosy.	5. Pharmacognosy.
12. Pharmaceutical Lab'y.	12. Pharmaceutical Lab'y.	12. Pharmaceutical Lab'y.
6. Chemical Lab'y.	6. Chemical Lab'y.	6. Toxicology.
3. Materia Medica.	3. Materia Medica.	3. Bacteriology.
6. Botanical Lab'y.	6. Botanical Lab'y.	6. Botanical Lab'y.
3. Military Drill.	3. Military Drill.	3. Military Drill.

(a) or Physical Laboratory.

SCHEDULE OF EXERCISES.

HOURS.	MONDAY.	TUESDAY.	WEDNESDAY.	THURSDAY.	FRIDAY.	SATURDAY.
I. 8–9	4. Algebra. 3. Latin. 2. Pharmacy. 2. Mec. Engineer'g. 1 and 2. Drawing. 1. Elec. Enginer'g. 1. Biology. 1. German.	4. Geometry. 3. Agriculture. 3. Latin. 2. German. 2. Botany. 1 and 2. Drawing. 1. Elec. Engineer'g. 1. Mental Science.	4. Algebra. 3. Latin. 2. Pharmacy. 2. Vet. Science. 2. Mec. Engineer'g. 1. Biology. 1 and 2. Drawing. 1. Elec. Engineer'g. 1. German.	4. Geometry. 3. Latin. 2. German. 2. Botany. 2. Mec. Engineer'g. 1 and 2. Drawing. 1. Mental Science. 1. Elec. Engineer'g.	4. Algebra. 3. Latin. 2. Pharmacy. 2. Veterinary Sci. 1 and 2. Drawing. 1. Biology. 1. Elec. Engineer'g. 1. German.	Exercises in Elocution.
II. 9–10	4. English. 3. Chemistry. 2. Civ. Engineer'g. 2. Elc. Engineer'g. 2. Latin. 1. Calculus. 1. Biology (Lab.)	4. History. 3. Physiology. 2. Civ. Engineer'g. 2. Elc. Engineer'g. 2. Botany. 1. Chemistry. 1. French.	4. English. 3. Chemistry. 2. Civ. Engineer'g. 2. Elc. Engineer'g. 2. Latin. 1. Calculus. 1. Vet. Science. 1. Pharmacognosy.	4. History. 3. Agriculture. 2. Civ. Engineer'g. 2. Botany. 2. Elc. Engineer'g. 1. Chemistry. 1. French.	4. English. 3. Chemistry. 2. Civ. Engineer'g. 2. Latin. 2. Mec. Drawing. 1. Calculus. 1. Vet. Science.	Military Drill.
III. 10–11	3. English. 2. Physics. 1. Civ. Engineer'g. 1. Biology (Lab.) 1. Latin. 1. Mec. Engineer'g.	4. English. 3. Botany, (2, 3.) 3. History (1, 2.) 2. French. 2. Mec. Drawing. 1. Machine Design. 1. Pharmacognosy. 1. Biology. 1. Civ. Engineer'g. 1. Mec. Engineer'g.	3. English. 2. Physics. 1. Latin. 1. Civil Engineer'g. 1. Biology. 1. Mec. Engineer'g.	4. English. 3. History (1, 2.) 3. Botany, (2, 3., 2. French. 1. Civ. Engineer'g. 1. Mec. Engineer'g. 1. Machine Desi'g. 1. Pharmacognosy.	3. English. 2. Physics. 1. Civ. Engineer'g. 1. Pharmacognosy. 4. History (3.) 1. Mec. Engineer'g.	Mechanic Arts. Chemical Lab'y. Electrical Lab'y. Physical Lab'y. Veterinary Clinics. Field Engineer'g.

SCHEDULE OF EXERCISES—Continued.

HOURS	MONDAY.	TUESDAY.	WEDNESDAY.	THURSDAY.	FRIDAY.	SATURDAY.
IV. 11–12	4. Physics. 4. Mechanic Arts. 4. Agriculture (3.) 4. Latin (1, 2.) 3. Drawing. 2. Mathematics. 2. Chemistry. 2. Pharmacognosy. 1. English (1, 2.) 1. Pol. Econ. (2, 3).	4. Latin. 3. Drawing. 2. Horticulture. 2. Mathematics. 2. Chemistry Agr. 2. Pharmacognosy. 1. French. 1. Physics.	4. Physics (1, 2.) 4. Latin (3.) 4. Mechanic Arts. 3. History (1, 2.) 3. Botany (2, 3.) 2. Mathematics. 2. Chemistry. 2. Pharmacognosy. 1. English (1, 2.) 1. Pol. Econ. (2, 3.)	4. Latin. 3. Physiology. 2. Horticulture. 2. Mathematics. 2. Chemistry Ag 1. French. 1. Physics.	4. Physics (1, 2.) 4. Mechanic Arts. 4. Agriculture (3). 4. Latin (1, 2.) 3. Drawing. 2. Mathematics. 2. Chemistry. 2. Pharmacognosy. 1. Military Science.	1. Pharmaceutical Lab'y. 3. Mechanic Arts. Chemical Lab'y. Electrical Lab'y. Physical Lab y. Veterinary Clinics. Field Engineer'g.
V. 12–1	4. Drawing. 4. Mechanic Arts. 3. Mathematics. 2. English. 1. Elec. Design'g. 1. French. 1. Pharmacy. 1. Eng. Chem. and Metallurgy.	3. Mathematics. 2. English. 1. Geology. 1. Pharmacy.	4. Drawing. 4. Mechanic Arts. 3. Mathematics. 2. German. 2. Anal. Chemist'y. 1. Pharmacy. 1. Eng. Chem. and Metallurgy. 1. Elec. Designing.	3. Mathematics. 2. English. 1. Geology. 1. Pharmacy.	4. Drawing. 4. Mechanic Arts. 3. Mathematics. 2. Military Tactics. 1. Elec. Designing. 1. Pharmacy.	3. Mechanic Arts. Chemical Lab'y. Electrical Lab'y. Physical Lab'y. Veterinary Clinics. Field Engineering.
P. M. VI, VII 2–4	4. Mechanic Arts. 3. Field Work Agr. 1 & 2 Lab. Chemistry. 1 & 2 Field Work Engineering. 1 & 2 Mach. Work. Elec. Lab. Work. Physical Lab y.	3. Mechanic Arts. 2. Mineralogical Lab. Military Drill (*) 1. Mech. Lab'y. Elec. Lab'y. Work. 1 & 2 History.	4. Mechanic Arts. 3. Field Work. Agr. 1 & 2 Laby. Chem. 1 & 2 Field Work, Engineering. 1 & 2 Mach. Work. Ex'cis in Elocut'n. Elec. Lab. Work. Physical Laby.	3. Mechanic Arts. 2. Mineralogical Lab. Military Drill (*). 1. Mech. Lab'y. Elec. Lab'y. Work. 1 & 2 History.	4. Mechanic Arts. 3. Field Work Agr. 2. French. 1 & 2 Lab. Chem. 1 & 2 Field Work, Engineering. 1 & 2 Mach. Work. Ex'cis. in Elocut'n. Elec. Lab. Work. Physical Lab'y.	

Chapel services daily at 7:45 a. m. * From 4:30 to 5:30 p. m.
Numbers prefixed denote classes—1 denotes senior, 2 junior, etc. Numbers affixed—(1), (2), (3), denote terms.

DEPARTMENTS OF INSTRUCTION.

MATHEMATICS.

PROFESSOR SMITH,

ASSOCIATE PROFESSOR CRENSHAW.

INSTRUCTOR PATRICK.

The subjects taught in the different classes in this department are as follows:

FRESHMAN CLASS. Algebra through quadratic equations and series, geometry (seven books Wentworth), original solutions of exercises.

SOPHOMORE CLASS. Solid geometry, plane and spherical trigonometry, surveying, mensuration.

JUNIOR CLASS. Analytical geometry, descriptive geometry, differential calculus.

SENIOR CLASS. Differential and integral calculus.

Two objects are sought to be obtained: First, mental discipline; second, a thorough knowledge of the principles of pure mathematics and their practical appplications.

Theoretical and practical instruction is given to the sophomore class in land surveying, mapping, plotting and computing areas, etc., also in the theory, adjustment and use of instruments.

The class, in sections of six or eight, devote three afternoons a week during the second and third terms to field practice.

The completion of this course, common to all students, lays the foundation for the pure and applied mathematics of the mechanical and engineering courses.

THE
JOHN CRERAR
LIBRARY

BOTANICAL LABORATORY

Analytical geometry, descriptive geometry, and calculus are pursued in the engineering courses. Especial attention is given to their practical applications.

During the entire course, instruction in text-books is supplemented by lectures. Solutions of original practical problems are required of the student, to make him familiar with the application of the principles and formulas.

TEXT-BOOKS.

Wentworth's Algebra, Wentworth's Geometry, Wentworth's Trigonometry, Robbins' Surveying, Wentworth's Analytical Geometry, Faunce's Descriptive Geometry, Taylor's Calculus, Johnson's Differential Equations, Osborne's Problems, Peck's Determinants.

GEOLOGY AND BOTANY.

PROFESSOR MELL.

Geology.—This subject is studied in the senior class, and extends through the entire session. Special attention is given to the geology of Alabama, and many illustrations are drawn from the coal and iron fields and other natural deposits of minerals in the State. Mineral springs, the origin of ore deposits, and the geological relations of soils are carefully studied.

There is also a course of advanced work in practical geology for post-graduate students. This subject is pursued by applicants for the degrees of master of science and mining engineer.

The junior classes in civil and mining engineering, chemistry and metallurgy, study mineralogy through the entire session. This work consists of a thorough course in blow-pipe analysis of the ordinary minerals, and lectures upon crystallography, with instruction how to measure crystals and determine the physical constants of minerals. An effort is made to familiarize the student with all the economic ores and the rocks entering into the composition of soils.

Botany.—The students of the sophomore class begin the study of botany the first of March, and continue it through the remainder of the session. Careful experiments are conducted in the lecture room explaining the formation and germination of seed, the growth into the mature plant, and the various functions performed by the plant in its development. Each student is required to keep careful notes illustrated with drawings of the various organs of the plant under examination. A limited amount of work is done in classification and nomenclature.

In the junior class, in the course of chemistry and agriculture, two terms are devoted to systematic and structural botany, and to advanced laboratory work with the microscope in the preparations of specimens showing plant structure; this work is sufficient to familiarize the students with the methods of plant building and cellular organization. Excellent microsopes of the most improved patterns, and all necessary chemicals and apparatus for preparing and mounting vegetable tissues, are used by the students.

The third term is devoted to the study of physiology of plants in order to understand the functions of the various organs after completion of the work in the histological laboratory.

FACILITIES FOR WORK.

Geology.—The department is equipped with models of Mount Shasta, the earthquake of 1887 in Japan, glass crystals for teaching crystallography; charts and maps of the geology of America and Europe; Colt's lantern complete with oil, oxy-hydrogen and automatic electric lamps; a large assortment of fine lantern slides representing geological formations in this country and abroad; well equipped mineralogical laboratory for thirty students, supplied with a collection of representative minerals, and models of crystals.

Botany.—The facilities for teaching this subject are as follows: Auzoux's clastic models of seeds and flowers; a large collection of pressed plants of Alabama and other sections mounted and catalogued. There is also a laboratory for practical work in botany equipped with slate-topped tables for twenty-eight students; dissecting and compound microscopes of Zeiss, Leitz, and Bausch & Lomb; projection microscopic apparatus; microtomes by King and Bausch & Lomb; all the necessary glassware and smaller dissecting instruments required in a well equipped laboratory. The Zeiss compound microscope used by the professor for experiment work in connection with the station is supplied with Abbe's illuminating apparatus, slide changers, Abbe's camera lucida, polarizers, apochromatic objectives (16mm, 8 mm, 4mm, and homogeneous immersion), oculars (2, 3, 8, 12, 18), and photographic eye-pieces with micrometer. This laboratory is well lighted with gas and electricity and with a good exposure for ample sunlight.

In connection with the department there is a photographic dark-room and an excellent photographic outfit, consisting of cameras varying in size from 4x5 to 6½x8½ inches; Bausch & Lomb's professional photo-micro camera extending to eight feet; Zeiss's anastigmat photographic lens, 6½x8½, fitted with Bausch & Lomb's diaphragm shutter and Zeiss's wide angle lens, 6½x8½, all mounted in aluminum; Clark's lens fitted with diaphragm shutter; the accessory apparatus and chemicals required for first-class work in photography.

The students have access to the botanical garden where experiments in grass culture and many other plants of interest to the farmer are conducted by the professor.

TEXT-BOOKS.

LeConte's Geology, Tarr's Economic Geology, Dana's Mineralogy, Crosby's Tables for Determining Minerals, Bergen's Botany, Mell's Laboratory Guide, and notes of lectures.

CIVIL ENGINEERING AND DRAWING.

PROFESSOR LANE.

ASSISTANT HALEY.

The special studies in this department begin in the junior class, and require a good knowledge of algebra, geometry, trigonometry, and analytical mechanics. They are as follows:

Junior Class.—Simple, compound, reversed and parabolical curves, turn-outs and crossings, leveling, gradients, setting slope stakes, etc.

Special attention will be paid in this class to the location, construction, drainage and maintenance of country roads; and the various pavements and foundations for the same.

Senior Class—Classification, appearances, defects, seasoning, durability and preservation of timber; classification and description of natural building stones; bricks and concretes; cast and wrought iron, steel and other metals; limes, cements, mortars and their manufacture; paints and other preservatives; classification of strains and a general mathematical discussion of same; joints and fastenings; solid and open built beams; classification, construction and mechanics of masonry; foundations on land and in water; bridges and roofs of different kinds, their construction and strains determined mathematically and graphically; common roads, their coverings, and location, and construction of railroads; navigable, irrigation and drainage canals; rivers and seacoast improvements.

Theory and practice are combined in both classes.

TEXT-BOOKS.

Junior Class—Henck's Field Book for Railway Engineers and Byrne's Highway Construction.

Senior Class—Wheeler's Civil Engineering and Von Ott's Graphic Statics.

DRAWING.

All of the students of the freshman and sophomore classes are required to take drawing; but only the students in civil engineering in the junior and senior classes.

The freshman class is taught linear and free-hand drawing. The sophomore class is instructed in the principles of orthographic and isometric projections, shades, shadows, perspective and tinting. In the junior class the instruction embraces a more extended course in orthographic and isometric drawing, perspective, shades and tinting; also sketches of tools and machines, plans and elevations and cross-sections of buildings, and blue-prints. The senior class makes topographical drawings and drawings of machines, roofs, bridges, etc., to different scales, and blue-prints. Plans, profiles and sections of railroad surveys complete the instruction in this department.

TEXT-BOOKS.

Freshman Class—Kitchener's Geometrical Note Book, Webb, Ware & Zaner's Practical Freehand Drawing.

Sophomore Class—Davidson's Projections, Davidson's Practical Perspective, Keuffel & Esser's Alphabet.

Junior Class—Davidson's Building Constructions, Davidson's Drawing for Mechanics and Engineers, plates belonging to the college, Keuffel & Esser's Alphabet.

Senior Class—French, English and American plates belonging to the college, Keuffel & Esser's Alphabet.

ENGLISH AND POLITICAL ECONOMY.

PROFESSOR THACH.

PROFESSOR WIATT.

ASSISTANT SCROGGS.
ASSISTANT LETCHER.

OBJECTS AND METHODS.

In this department the students pursue a systematic course in the English language and literature.

Language is the avenue of approach to all knowledge; the interpretation of words is the fundamental process in education of whatsoever kind. A full course in English is, therefore, considered especially important in the technical courses of study that do not include the ancient classics. Accordingly, the course in English is continued throughout the four years of the college curriculum, three hours a week, and is made obligatory upon all students, with the exception of those pursuing the first two years of the course in Latin. In this extended drill in the grammar and literature of the English language, the endeavor is made to afford a training somewhat equivalent to the ordinary course in the classical languages.

In view of the ill preparation in languages, especially in their mother tongue, exhibited by many of the candidates for admission to the freshman class, it is deemed advisable, for the sake of honest work, to devote a portion of the first year to grounding such students in the principles of grammar.

Especial attention is given to the study of the writings themselves of leading English authors, since direct contact with literature is considered more profitable than information merely *about* literature.

All students before classed as regular in any course leading to a degree must conform to all the requirements in English for admission as set forth on page 41.

For requirements as to thesis and as to proficiency in English for certificates and degrees see pages 49, 50, and 109.

Declamation and themes (or orations) are required of *all regular* students. For details see below.

COURSES OF STUDY.

Freshman Class—Five hours a week; study of grammar, the principles of special and general composition, with frequent brief papers illustrating the laws studied; study of American authors; Irving, Hawthorne, Holmes, Poe, Bryant, Longfellow.

Swinton's English Grammar, Lockwood's Rhetoric, Kellogg & Reed's English Language.

Sophomore Class—Three hours a week; study of style, analysis of selections of prose and poetry; frequent essays on historic and literary themes.

G. R. Carpenter's Rhetoric, Genung's Rhetorical Analysis, Syle's From Milton to Tennyson.

Junior Class—Three hours a week; lectures on the history of English literature, critical study of English classics, essays.

Pancoast's History of English Literature; Pancoast's Standard English Poems, Macaulay, Carlyle, DeQuincey, etc.

Senior Class—Two hours a week, first term. Principles of Criticism, Shakespeare's Julius Cæsar, Hamlet, etc., Dowden's Shakespeare, etc.

THEMES AND ORATIONS.

Theory without practice is as fruitless in the study of English as in any other department of study. Practical work is indispensable to the successful teaching of English.

Besides numerous brief papers illustrative of the subject matter of the text-books, set themes or orations are *required of all students*: For the freshman class, *ten* themes a year; *ten* for the sophomore; for the senior and junior classes, *three* orations each.

DECLAMATION.

The old practice of committing pieces to memory for "speaking" is cultivated as a means, both of training in the art of thinking on the feet, and of storing the mind with the diction of finished specimens of English style.

The sophomore class is heard weekly throughout the year in sections of ten, once for an hour and a half in rehearsal, afterwards in the study-hall before the body of students.

The senior and junior classes also deliver their orations in public.

PHILOSOPHY AND POLITICAL ECONOMY.

The senior class pursues the study of intellectual science, twice a week, through the year; and political economy twice a week, during the last two terms. The instruction in this department is by lectures in combination with text-books.

Intellectual Science—Psychology defined. Value in relation to moral culture, education and Natural Sciences. The relation of the soul to matter. The arguments of the Materialist. Counter arguments. The Faculties of the Soul. The nature of Consciousness. Sense Perception. Fancy. Imagination. Nature of Conceptions. Language. Judgment. Reasoning. Deduction. Induction, etc. *Porter's Intellectual Science.*

Political Economy—Value; production of wealth; land; labor; capital; division of labor; distribution of wealth; wages; trades-union; tariff; education, etc. *Lectures by Professor. Ely's Outlines of Economics.*

A Post-graduate course has also been established in English. The following courses have been given:

(1) *Shakespeare*—Hamlet, Othello, Macbeth, Merchant of Venice, As You Like It, Henry IV., Part I., Richard III., King John.

(2) *Dryden—Poetical Works* (Christie); *Essay on Dramatic Poesy* (Thomas Arnold); *Essay on Satire, etc.*, (Yonge); Saintsbury's *Life of Dryden.*

Pope—Poetical Works (Ward); *Satires* (Pattison); Stephen's *Life of Pope*, Gosse's *From Shakespeare to Pope* and *18th Century Literature.*

(3) *English Literature of the Eighteenth Century*: Addison Pope, Gray, Goldsmith, Burns, Cowper, Burke.

(4) *American Literature*: Longfellow, Lowell, Poe.

(5) *The Rise and Development of the English Essay*: Bacon, Addison, Steele, Swift, Johnson, Goldsmith, Macaulay, DeQuincey, Lamb, Carlyle.

(6) *Milton—Poetical Works* (Masson); Life, Patisson, Brooke.

CHEMICAL LABORATORY (INTERIOR).

CHEMISTRY.

PROFESSOR ROSS.

ASSISTANT PROFESSOR HARE.
INSTRUCTOR PHELPS.

Instruction in this department embraces—

1. A course of lectures in general chemistry.
2. A course of lectures in industrial and engineering chemistry.
3. A course of lectures in organic chemistry.
4. A course of lectures in metallurgy.
5. A course of lectures in agricultural chemistry.
6. Systematic laboratory work in connection with each course of lectures, for the practice of chemical analysis and chemical research.

1. Course in general chemistry: This consists of a series of lectures (three per week) extending throughout the entire session, and includes a discussion of the fundamental principles of chemical philosophy in connection with the history, preparation, properties and compounds of the metallic and non-metallic elements, with the main facts and principles of organic chemistry. In this course the more common applications of chemistry to the arts and manufactures are discussed. The apparatus used for experimental illustration is extensive, containing the newest and approved improvements necessary for presenting the subject in the most attractive and instructive form.

REFERENCE BOOKS.

Roscoe & Schorlemmer, Fownes, Frankland, Remsen, Cooke's Chemical Philosophy, Chemical Journals.

2. Lectures in industrial chemistry (three per week) extend throughout the session, and include a discussion in detail of the processes and chemical principles involved in the most important applications of chemistry in the arts and manufactures to the preparation of materials for food and drink, for clothing, shelter, illumination, cleansing, purifying, writing, printing, etc.

These lectures are amply illustrated by means of suitable specimens of raw materials and manufactured products, together with models and diagrams.

A course of lectures (two hours per week) on engineering chemistry is given during the last half of the senior year, especial attention being given to the study of the construction and equipment of chemical plants devoted to the manufacture of the more important chemical products. The study of textile chemistry will also be included in this series of lectures.

Excursions to various chemical and metallurgical plants during the course of the year will aid in familiarizing the student with the practical details of the operations of the leading industries.

REFERENCE BOOKS.

Thorp's Industrial Chemistry, Wagner's Chemical Technology; Muspratt's Chemistry as applied to Arts and Manufacturing, Ure's Dictionary, Watts's Dictionary, Richardson and Watts's Chemical Technology, Sadtler's Industrial Organic Chemistry.

3. Course in organic chemistry: Instruction in this subject embraces lectures and recitations (two hours per week) throughout the junior year, upon the leading facts and principles of the chemistry of the carbon compounds, and includes a study of the methods of preparation of the more important compounds, their properties, and their structural and stereo-chemical relations.

TEXT AND REFERENCE BOOKS.

Remsen's Organic Chemistry, Richter's Organic Chemistry, Gatterman's Practical Methods of Organic Chemistry.

4. Course in metallurgy: This consists of lectures and recitations (two per week, during the first half of the senior year) upon the more important metals, such as iron and steel, copper, lead, tin, silver, gold, mercury, zinc, etc. It includes a discussion of the physical and chemical properties of the metals and their alloys, the ores and their treatment, and the processes by which the metals are obtained from the ores, with chemical reactions involved.

5. Course in agricultural chemistry: This consists of lectures on chemistry in its application to agriculture (two per week, during second and third terms), and includes a thorough discussion of the origin, composition and classification of soils, the composition and growth of plants, the sources of plant food and how obtained, the improvement of soils, the manufacture and use of fertilizers, the chemical principles involved in the rotation of crops, the feeding of live stock, and the various operations carried on by the intelligent and successful agriculturist.

REFERENCE BOOKS.

Johnson's How Crops Grow, and How Crops Feed, Lupton's Elementary Principles of Scientific Agriculture, Johnson's and Cameron's Elements of Agricultural Chemistry, Storer's Agriculture in Relation to Chemistry, scientific journals, reports of the United States Department of Agriculture, and the bulletins and reports of the various home and foreign agricultural departments and stations.

6. The course of systematic laboratory work: This course of practical work in the laboratory is carried on in connection with each course of lectures. In the jun-

ior year the work embraces the practical operations of chemical synthesis and analysis and includes the preparation of the non-metallic elements and their most important compounds, in addition to a systematic study of the metals and their compounds, their separation and identification. In the senior year students pursue work in quantitative analysis, including analysis of fertilizers, soils, coals, ores, iron and steel, sugars and sugar products, feed stuffs, mineral waters, fluxes, slags, cinders, furnace gases, etc., the courses of work being varied somewhat to suit the individual object of the student.

In the course in Pharmacy, instruction in Toxicology and Toxical Analysis is given during the last term of the senior year.

All students during the sophomore year are required to take two hours per week of practical laboratory work, instruction being given in the simplest methods of chemical manipulation.

The laboratories, which are open from 9 A. M. to 5 P. M., during six days in the week, are amply supplied with everything necessary for instruction in chemical manipulation in qualitative and quantitative analysis, and in the methods of prosecuting chemical research. Unusual facilities are offered to students who wish to devote their time to the special study of practical chemistry.

Each student on entering the chemical laboratory is furnished with a work table, a set of re-agent bottles and the common reagents and apparatus used in qualitative or quantitative analysis.

At the close of the session he will be credited with such articles as may be returned in good order; the value of those which have been injured or destroyed will be deducted from his contingent fee.

In addition to the laboratory work above described it is designed to give a short course of laboratory work in industrial chemistry, in which the student will apply upon a small scale the principles involved in the processes of some of the more important chemical industries.

TEXT-BOOKS.

In qualitative analysis—Jones, Sellers, Fresenius, Plattner.

In quantitative analysis—Fresenius, Cairns, Sutton, Rose, Blair's Analysis of Iron and Steel, Bunsen, Rickett's Notes on Assaying, Mitchell's Manual of Practical Assaying, Stillman's Engineering Chemistry, Lord's Metallurgical Analysis.

In agricultural chemical analysis—Official methods of the Association of Agricultural Chemists, Wiley's Principles and Practice of Agricultural Analysis.

CHEMICAL LABORATORY.

[For description of the building see page 16.]

The chemical apparatus recently purchased for the laboratory consists of a full supply of the most approved instruments for practical work and investigation. The building is supplied with water and gas and every appliance required to meet the demands of modern scientific instruction and research. In addition to the apparatus usually supplied to first-class laboratories, there have been imported a new and improved Schmidt and Hensch's polariscope, eight short-arm balances of latest pattern, Bunsen spectroscope, Abbe refractometer and other instruments for delicate and accurate work.

PHYSICS.

PROFESSOR SOUTHALL.

The complete course of Physics extends over four years, and is designed to give, as far as possible, an adequate and correct idea of the methods of Physical Science, and to lay the foundation for subsequent more advanced work if (as must often be the case, especially in an institution such as this) the student desires to pursue the subject further or intends to engage in any of the great engineering professions of which Physics is so important a basis. The lectures are illustrated by experiments; the students are required to work numerous problems and exercises; recitations are held each week.

FRESHMAN COURSE.

This course is very elementary, and continues only during the first and second terms. The object in view is to make the student familiar with the fundamental principles of Physics. The class meets three times a week. (The text-book will be announced later.)

SOPHOMORE COURSE.

This is a laboratory course, and deemed especially important for students of engineering, and of great advantage to such as intend to pursue the subsequent higher work in this department. The laboratory exercises are carefully selected, being designed to illustrate the fundamental methods and principles of Physics, and, although the work is necessarily more or less elementary, at the same time such accuracy and precision as the conditions admit of are insisted upon, so that the student is expected to acquire a fairly correct idea of modern experimental investigation. The exercises consist of the fundamental measurements of Length, Mass, Density, moduluses of Elasticity, pendulum experiments, etc., together with a few more advanced experiments in connection with the simpler properties of Liquids and Gases, and the general phenomena of Heat and Sound. The student is required to write a careful report of each experiment, entering the results of observation in tabular form, and plotting a curve wherever practicable; also describing the object, apparatus, and method, and noting sources of errors, etc. Great stress is laid upon this requirement, and reports are not accepted unless they indicate that the student has done his best in every way. Four hours per week throughout entire year. (Text-book will be announced later.)

JUNIOR COURSE.

Lectures and recitations three hours a week throughout entire session. This is a more advanced course in general physics required of all candidates for a degree. The only preparation needed is a good working knowledge of mathematics through plane trigonometry. The course includes a series of illustrated lectures on the principles of Dynamics, as applied to Solids, Liquids, and Gases, Sound, and Heat, in the order named. Written exercises are required each week. (Text-book to be announced later.)

SENIOR COURSE.

Lectures and recitations two hours a week throughout the entire session. This course, although more advanced than the Junior course, and occasionally employing the higher Mathematics, is a continuation of the work of the previous year. It might be called a course in Elementary Mathematical Physics, and the subjects, varying from year to year, that are treated in the lectures are such branches of Physics as Kinematics and Dynamics, Thermodynamics, Electricity, and Magnetism, Geometrical and Physical Optics, etc. The student is encouraged to solve difficulties for himself, and to read the standard treatises and original memoirs on the various topics that come under discussion.

The last term of the session will generally be devoted to a brief course of lectures in *Descriptive Astronomy*.

The text-books in this class vary with the changing subjects, and will be announced by the professor each year.

GRADUATE COURSE.

This course will be designed to meet the needs of the students who take it. It will include both theoretical and experimental work in more advanced Mathematical Physics, or in Analytical Mechanics.

HISTORY AND LATIN.

PROFESSOR PETRIE.

ASSISTANT BOYD.

HISTORY.

In this department the aim is not so much to memorize facts as to understand them. Strong emphasis is laid on the fact that history is not a succession of isolated facts, but a progressive whole, each event being at once the cause and the effect of other events. The students are taught to investigate the growth of ideas and institutions, the rise and progress of great historical movements and the reciprocal influences of men and circumstances. Frequent use is made of diagrams, photographs, charts and maps, with which the department is well equipped. Instruction is given by text-books, lectures and class discussion, but a constant effort is made to stimulate to wider reading and research in the library.

The following courses are given:

Freshman Class—History of the United States, Alabama, and England.

Text-books: Hart's "Formation of the Union," Wilson's "Division and Reunion," Brown's "History of Alabama," Montgomery's "History of England."

Sophomore Class—Political and Social History of Europe, Ancient, Mediæval and Modern. The work is conducted partly by lectures, partly by text-book. Every week problems will be assigned for research.

Text-book: Myers's General History.

HISTORICAL LABORATORY.

In the junior and senior classes opportunity for special work in United States history is given to those students of the General Course who elect it as laboratory work, and to any others who are properly qualified. The chief object kept in view is training in historical research and in the formation of independent, but careful opinions based on the original sources of information, as well as on the standard authorities. Emphasis is laid on the importance of securing proper material for investigation, and every incentive is given to the collection and use of new documents, papers and letters illustrative of Southern, and especially of Alabama, history.

The method of work is as follows: Informal lectures are given on important and suggestive points. After each lecture topics connected with it are assigned to the students with an outline of the points to be investigated. They report their results to the class and a discussion follows. The final results are collected by each student according to his own judgment in his note-book, which is then passed in to the professor for correction and suggestion.

The following courses in laboratory work will be offered during the session of 1902-03:

Junior Class—The motive for American colonization; colonial governments; causes of the Revolution; Declaration of Independence; treaty of peace; Confederation; Ordinance of 1787; Constitution.

Text-books: Frothingham's "Rise of the Republic," Lecky's "American Revolution," Fiske's "Critical Period."

Senior Class—The rise of parties; War of 1812; Monroe Doctrine; Missouri Compromise; Nullification; Annexation of Texas; Compromise of 1850; Kansas Struggle; Dred Scott Decision; Secession.

Text-books: Moore's "American Congress," Burgess's "Middle Period."

GRADUATE STUDENTS.

Graduate students are expected to take part in the junior and senior discussions and in addition will meet with the professor for conference in regard to their work. Those who take history as their major subject are expected to devote a large part of their time to original research upon some topic on which they can consult the original sources of information. They are also required to pursue a prescribed course of reading as indicated below.

TEXT-BOOKS.

Rhodes's "History of the United States from the Compromise of 1850," Vols. 1 and 2; Stephens's "Constitutional View of the War Between the States"; Lives of Calhoun, Clay and Jackson; special reading in connection with the research.

PRIZES.

The Eufaula Chapter of the Daughters of the American Revolution have offered a gold medal for the best original historical research done during the session of 1901-02 by any young woman matriculated in college.

The Colonial Dames in Alabama have donated fifty dollars toward the expenses during the session of 1902-03 of the young man matriculated in college who submits the best research on a specified colonial topic.

LATIN.

The objects kept in view in this department are: An accurate knowledge of the forms and syntax; a familiarity with Latin words, their etymology and their English derivatives; an appreciation of Latin literature and an intelligent conception of Roman history and civilization, both in themselves and in their effect on the modern world.

A systematic course of instruction is given in the forms and syntax. These are taught both deductively from a grammar and inductively from the text read. Translation is constantly practiced, sometimes at sight, sometimes after being assigned for preparation.

English passages based on the author read or illustrative of special constructions are put in Latin, both orally and in writing. Great emphasis is laid on the etymology of the words in the text read.

In connection with every author studied in class a course of reading in English is prescribed descriptive of his life, work and times. The historical setting and the literary value of his writings are carefully discussed and frequent comparisons are made with modern authors.

For the benefit of students who do not study the Latin language a series of popular lectures will be given upon the great Latin writers. Especial emphasis is laid on proficiency in writing Latin exercises and in translating Latin prose at sight.

TEXT-BOOKS.

Freshman Class—Allen & Greenough's Grammar, Exercises, Nepos, Sallust or equivalent.

Sophomore Class—Cicero, Allen & Greenough's Grammar, Bennett's Latin Composition.

Junior Class.—Virgil, Livy, Allen and Greenough's Grammar, Exercises, Guerber's Mythology, Botsford's "History of Rome."

Senior Class—Horace, Tacitus, Wilkins's Latin Literature, Exercises, Preston and Dodge's "Private Life of the Romans."

MODERN LANGUAGES.

PROFESSOR WIATT.

The chief aim in this department is to give the student a thorough and accurate knowledge of the elementary principles of the subjects taught, and to enable him to read with facility the ordinary French and German at sight. To train the ear, acquire a correct pronunciation and some facility in speaking, all recitations are supplemented, as far as practicable, by oral exercises in the languages themselves.

The following regular courses are given in French and German:

French—First Year: Three recitations a week. During this year the principal object is to acquire a knowledge of the elements of grammar and a correct pronunciation, together with a facility in translating ordinary French. Reading is begun at an early stage, and the principles of grammar are illustrated and impressed by frequent exercises in rendering English into French.

Second Year: Three recitations a week. During this year almost the same line of work is pursued as that begun the previous year. More difficult and varied French is read, and instruction is given upon the laws of grammar, the construction of the language, and the history of the literature. Special attention is given to sight translation.

German—Two Years: Three recitations a week the first year, three a week the second year. In this course the aim and the methods are similar to those in French.

The students in this department will meet the professor twice a week, from 4 to 5 p. m. during the *first term*, and the *third term*, for exercises in conversation in French and German.

TEXT-BOOKS.

FRENCH—*First Year*: Edgren's Grammar and Locard's Supplementary Exercises. Super's Reader.

Second Year: Feuillet's Le Roman d'un Jeune Homme Pauvre, Racine's Esther, Corneille's Le Menteur, Molière's Le Bourgeois Gentilhomme, selected plays, Whitney's Grammar, original exercises.

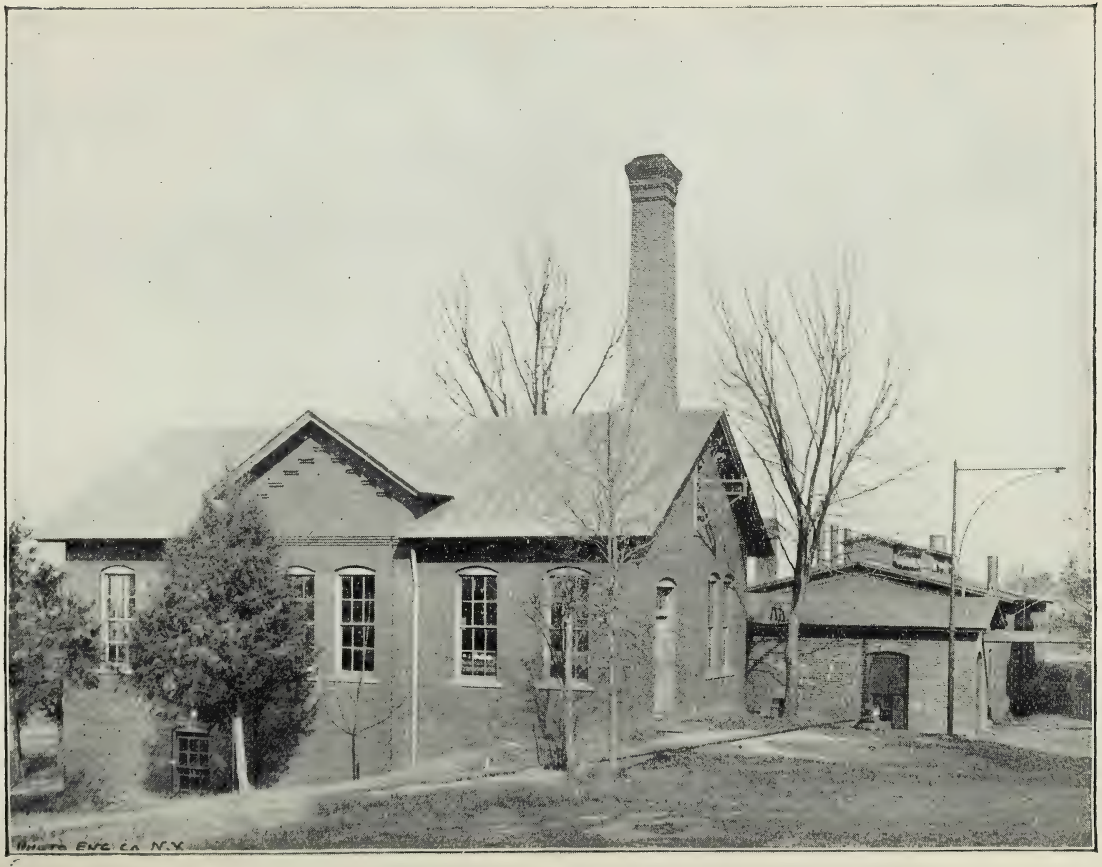
GERMAN—*First Year*: Joynes-Meissner's Grammar and Reader.

Second Year: Der Bibliothekar, Wilhelm Tell, Whitney's Grammar and Exercises, selected plays, original exercises.

GRADUATE COURSE.

This course is offered for the benefit of those students who wish to pursue the study of these subjects beyond the scope to which a two-year course necessarily limits them. Here, in addition to the authors studied in the lecture room, a wide and extensive reading of authors and literature is prescribed.

THE
JOHN CRERAR
LIBRARY



ELECTRICAL BUILDING.

ELECTRICAL ENGINEERING.

PROFESSOR DUNSTAN.

ASSISTANT SLOAN.

JUNIOR YEAR.

First Term: Four hours per week are devoted to the study of the principles of electricity and magnetism, with special reference to their industrial applications. The subject of electrical measurements is also treated in detail.

Second Term: Incandescent lighting, four hours per week.

Third Term: Arc lighting and wiring, four hours per week.

TEXT-BOOKS.

S. P. Thompson's Electricity; Crocker's Electric Lighting, and Cushing's Standard Wiring.

Instruction is given by lectures and recitations.

LABORATORY WORK.

Four hours per week are devoted to work in the laboratory. This includes management of batteries, electrical measurements, adjustments and testing of arc lamps, and a considerable amount of wiring and some electrical construction.

SENIOR YEAR.

First Term: Dynamo electric machinery, five hours per week.

Second Term: Alternating currents and alternating current machinery.

Third Term: Polyphase machinery and power transmission, five hours per week.

TEXT-BOOKS.

Dynamo Electric Machinery, Sheldon. Alternating Currents, Franklin and Williamson, Standard Polyphase Apparatus, Oudin.

LABORATORY WORK.

Six hours per week during the entire senior year are devoted to practical work in the dynamo laboratory. The work includes the study and testing of various types of dynamos and motors, the determination of various constants, dynamo and motor efficiencies, transformer testing, and the general management and installation of electrical machinery.

ELECTRICAL DESIGNING.

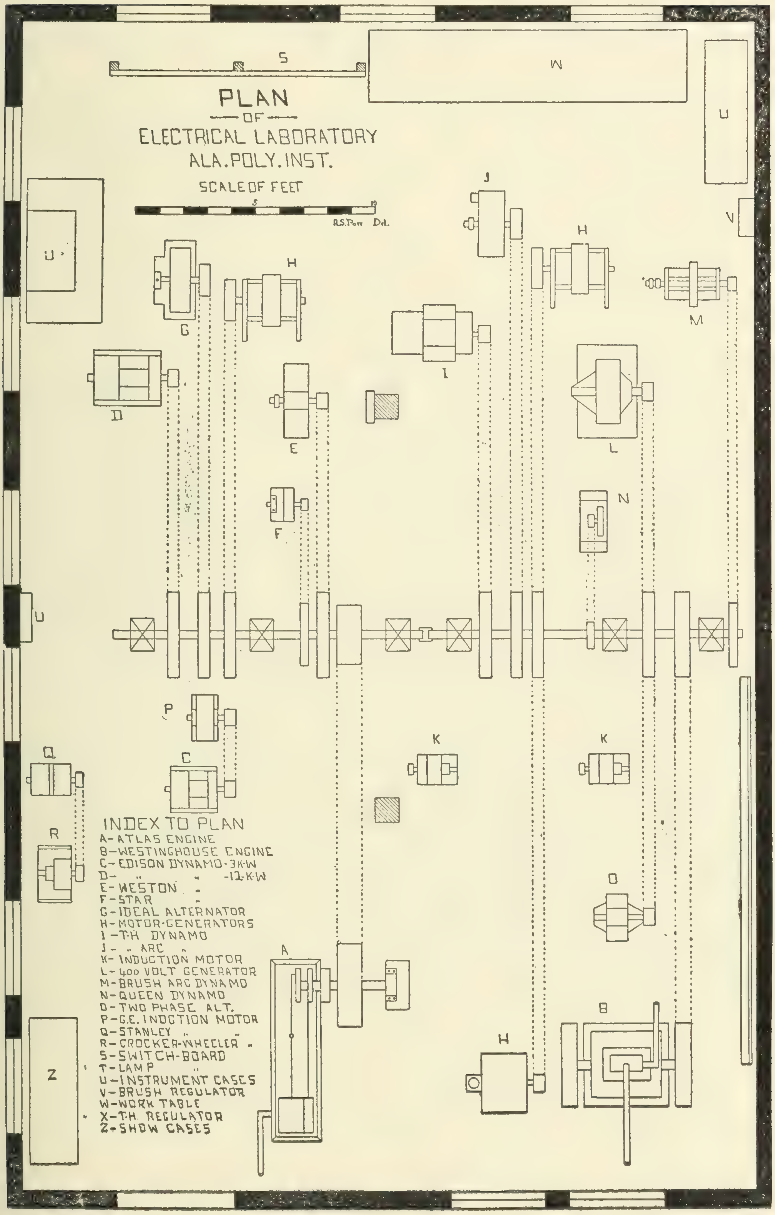
During the first term each senior student is required to design and prepare the necessary drawings for the construction of a direct current dynamo or motor, and during the third term the design of an alternator is completed.

Encouragement is offered to advanced students for conducting original investigations, and opportunity is taken to stimulate a spirit of scientific inquiry. Courses of reading are suggested to such students in connection with their experimental work.

Post Graduate Course. To graduate students more advanced courses of instruction in polyphase machinery and power transmission are offered, the courses being varied from year to year to suit the needs of those taking them.

EQUIPMENT.

The laboratory is well supplied with batteries, storage and primary, telephones, plating apparatus and similar minor apparatus. Among the instruments of precision may be noted Kelvin ampere balances, graded current and potential galvanometers, alternating and direct current ammeters and voltmeters of various ranges, from Weston, Queen, Jewell, Hartman & Braun, Despretz, Fein, General Electric Company and other domestic and foreign makers. There are also direct reading and recording watt meters, dynamometers reading from .0001 ampere to 100 amperes, a number of resistance boxes and bridges, condensers, keys, galvanometers of various types, magnetic testing apparatus, portable and fixed, pho-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T-LAMP "
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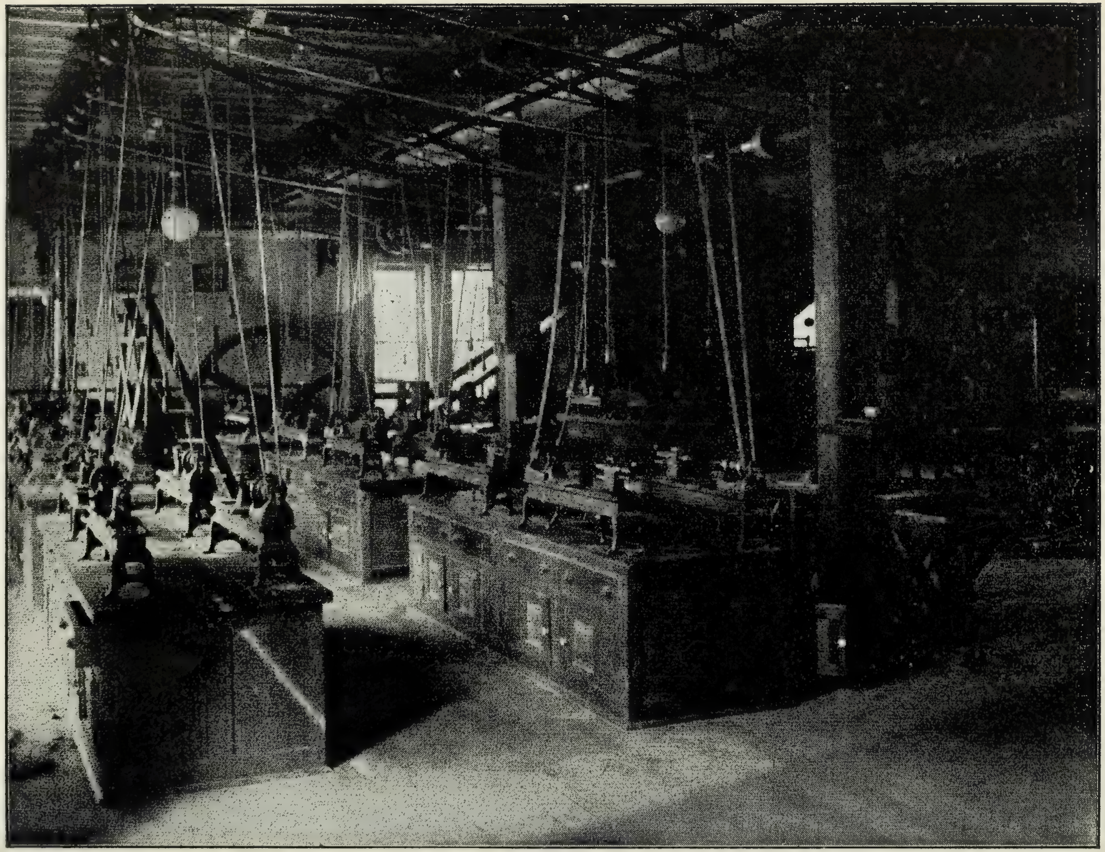
tometers, high potential testing apparatus, portable testing set, cradle dynamometer, a special instrument for comparing inductances, self and mutual, and capacities.

This department, being provided with Lord Kelvin's standard electrical instruments for exact measurements, will calibrate free of expense, any ammeter or voltmeter that may be sent to the college.

In the dynamo room the following are installed: One Weston 150 volt, 20 ampere dynamo, with rheostat; one Brush 6 arc light dynamo, with regulator and six lamps; one Ideal 5 kilo-watt three phase alternator; one Thompson-Houston 9 arc light dynamo with lamps; one Edison compound wound 12 kilo-watt generator; a Thompson-Houston 110 volt, 75 ampere generator; two street car motors used as either direct or alternating current generators or motors; two polyphase induction motors; one General Electric 5 horse-power induction motor, mounted on cradle dynamometer; General Electric 20 horse-power motor; and Stanley induction motor with condensers; one Fort Wayne 1 horse-power alternating current motor; Edison 3½ kilo-watt generator; a Crocker-Wheeler 1 horse-power motor and rheostat and one bi-phase alternator, and 500 volt generator, made by special students, furnish current, to laboratory and light up the different buildings. A lamp board with a capacity of 210 lamps has been installed and is used for testing purposes.

The dynamos occupy a separate brick building 50x32 feet, and are operated by a 60 horse-power Harrisburg Standard engine, and a 25 horse-power Atlas engine.

An electric motor, made by students, supplied with current from a generator at a distance of 3,000 feet, operates a gin, gin press, ensilage cutter and feed cutter at the experiment station farm. This motor not only subserves a useful purpose in the operation of these machines, but is an excellent illustration of the electric transmission of power.



WOOD ROOM.

MECHANICAL ENGINEERING AND MECHANIC ARTS.

PROFESSOR WILMORE.

ASSOCIATE PROFESSOR CRENSHAW.

ASSISTANT PROFESSOR TRAMMELL.

ASSISTANT PROFESSOR FULLAN.

INSTRUCTOR HILL.

ASSISTANT WERNER.

The course in manual training covers three years, as follows: First year, wood-working—carpentry and turning; second year, pattern making and foundry and forge work—molding, casting and smithing; third year, machine shop—chipping and filing and machine work in metals.

This course is obligatory upon the students of the two lower classes. For satisfactory reasons a student may be excused from this laboratory work by the Faculty.

The full work of each class is six hours per week, in three exercises of two hours each.

The power for running the apparatus in this department is derived from a 25 horse-power Harris-Corliss automatic engine. A steam pump and a heater for the feed-water form a part of the steam apparatus. For the steam plant a substantial brick boiler-house and chimney have been erected, and a 100 horse-power Heine boiler installed.

The equipment for the wood-working shops comprises the following: 30 wood-working benches, each with complete set of carpenter's tools; 24 turning lathes 10-inch swing each with complete set of tools; 1 double circular saw; 1 band saw; 1 board-planing machine; 1 jointer; 1 pattern-maker's lathe 16-inch swing; 1 36-inch grindstone. The tool room is supplied with a variety of extra hand tools for special work and in addition to the regular carpenters' tools in the benches each student is supplied with a set of chisels and plane irons with a locker to keep them in and is held responsible for their care and condition.

The equipment for the foundry consists of molding benches for 18 students, each supplied with a complete set of molder's tools; a 23-inch Colliau cupola, with all modern improvements, capable of melting 2,000 pounds of iron per hour; a brass furnace in which can be melted 100 pounds of brass at a heat, with a set of crucible tongs, etc. Also a full supply of ladles, large and small molding flasks, a foundry crane, special tools, etc.

The forge shop equipment consists of 24 down draft forges of new pattern each with a set of smith's tools, anvils, etc. The blast for all the forges is supplied with a No. 3 Sturtevant steel pressure blower (which also furnishes blast for the foundry cupola), and a 60-inch underground exhaust blower draws the smoke from the fires into the smoke flues and forces it out through the chimney.

The machine department occupies a brick building 30x100 feet and is equipped with eight 14-inch screw cutting engine lathes with six-foot bed; 2 engine lathes, 16-inch swing (one with taper attachment); 1 engine lathe, 18-inch swing, with compound rest and taper attachment; 1 speed-lathe, 10-inch swing; 1 20-inch drill press (power feed); 1 10-inch sensitive drill; 1 15-inch shaper; 1 22-inch x22-inchx5 foot planer; 1 26-inchx26-inchx6 foot iron planer; 1 universal milling machine; 1 corundum tool grinder (14-inch wheel); 1 bench grinder; 1 post drill press; 1 Brown and Sharpe universal grinding machine; 1 universal cutter and reamer grinder; 1 power hack saw. A part of the room is set apart for vise work, chipping and filing; and benches for twelve students are provided, each with vise and set of files, chisels, hammers, etc. In the tool room is to be found a good supply of machinists' tools for general shop use, such as lathe and drill chucks, drills, reamers, taps, dies, gauges, files, cutting and measuring tools, and special appliances for machine work, with machine for grinding twist drills.

The nature of the work in each department is as follows:

FIRST YEAR.

I. A course in carpentry or hand work covering the first two terms. The lessons include instruction in the nature and use of tools, instruction and practice in shop drawing, elementary work with plane, saw, chisel, different kinds of joints, timber splices, cross joints, mortise and tenon, mitre and frame work, dovetail work, comprising different kinds of joints used in cabinet making, light cabinet work, examples in building, framing, roof-trusses, etc.

II. A course in turning, extending through the third term. The lessons comprise nature and use of lathe and tools, plain straight turning, caliper work to different diameters and lengths, simple and compound curves, screw plate and chuck work, hollow and spherical turning.

SECOND YEAR.

I. Course in forge work in iron and steel, occupying the first term. The lessons are arranged so that the students in making the series of objects, become familiar with the nature of the metals and the successive steps in working them by hand into simple and complex forms, as drawing, upsetting, bending, cutting, punching, welding by various methods, tool-forging, tempering, hardening, etc.

II. A course in pattern-making covering the second term. The work includes a variety of examples of whole and split patterns, core work, etc., giving the students familiarity with the use of patterns for general molding.

III. A course in molding and casting in iron and brass occupying the third term. The work consists for the most part of small articles, such as light machine parts, but a sufficient variety of forms are introduced for the student to acquire a good general and practical knowledge of the usual methods and appliances used in light foundry work. Most of the work is in green sand in two part flasks; core work is also given and some three part flask and some dry sand work is introduced.

The same patterns which have been previously made by students are used, besides special patterns for occasional larger or more complicated work. Instruction and practice is given in working the cupola.

In connection with the second year work, a series of lectures is given on the metallurgy and working of the metals used in the industrial arts, cast and wrought iron, steel, brass, etc.

THIRD YEAR.

I. Course of chipping and filing, covering the first term. The lessons comprise work on cast and wrought iron; chipping to line on flat and curved surfaces, key-seating, etc., filing and finishing to line (straight and curved), surface filing and finishing, fitting, slotting, dovetail work, sawing, pin and screw filing, surface finishing with scraper, etc.

II. Machine work occupying the remainder of the year. The work includes cast and wrought iron; steel and brass; turning to various diameters and lengths, taper turning, facing with chuck and face plate, drilling—both in lathe and drill press—reaming, boring, screw-cutting in lathe and with taps and dies, planing, slotting etc., with planer and shaper, milling various forms with the milling machine, including exercise in making taps, reamers, etc., fitting, grinding, polishing, etc.

Lectures are also given during the year on various subjects connected with machine work in metals; such as forms, construction and use of the various machines, cutting tools, gearing, gauges, screw threads, etc. During the last term some piece of construction work is given the classes.

All of the work is done from blue prints and blackboard sketches. In the construction work the student is given a blue print and the material for a certain part. He is then encouraged to study the work and plan the best method of doing it.

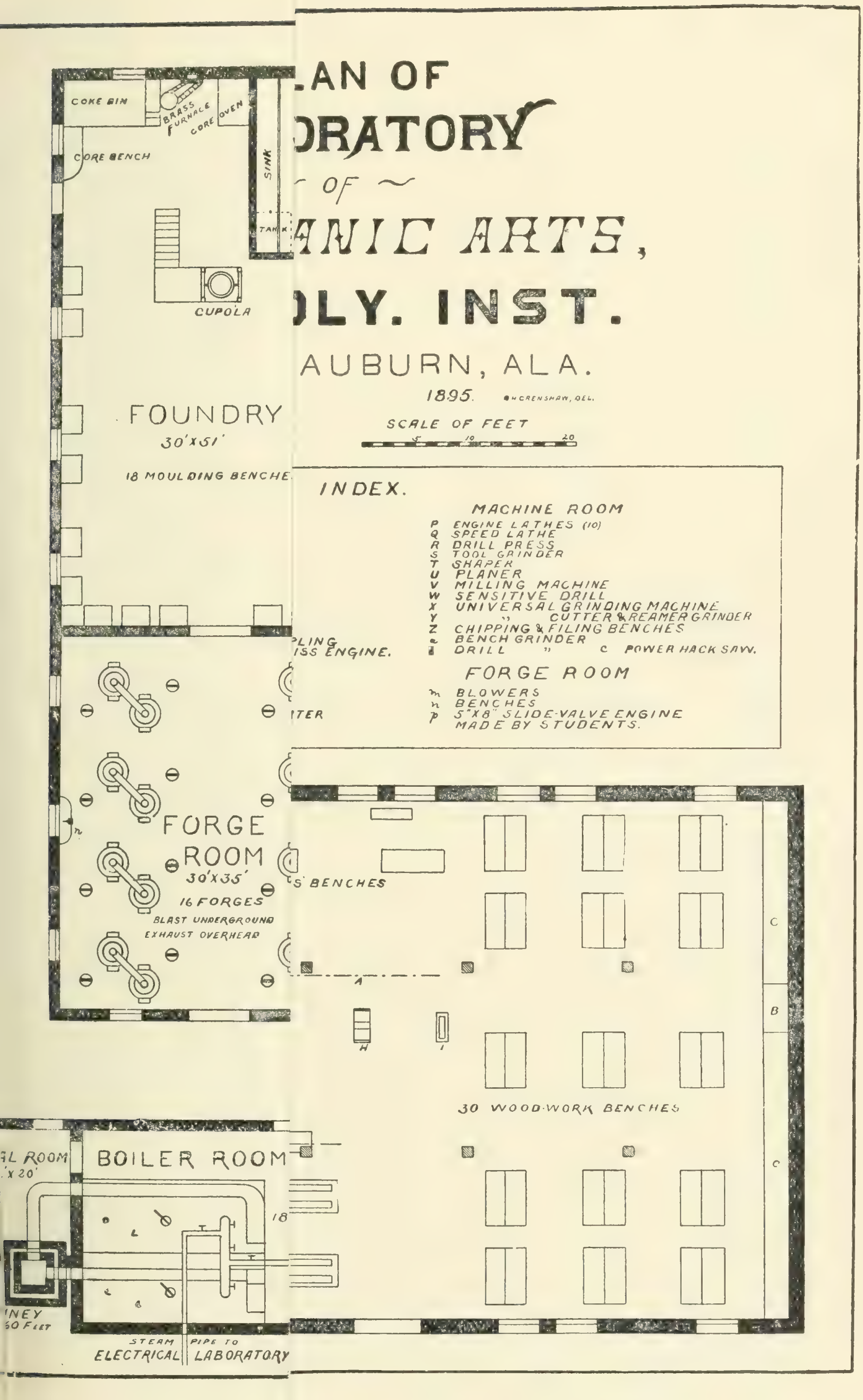
MECHANICAL ENGINEERING.

JUNIOR YEAR.

Elementary Mechanics.—Three hours a week for the first term are devoted to this subject. The fundamental laws underlying all mechanical science and the mechanics of liquids, gases and vapors are studied.

Kinematics.—Three recitations per week during the second and third terms are devoted to this subject.

Under this head machines are analyzed and their elementary combinations of mechanism studied. The communication of motion by gear-wheels, belts, cams, screws and link-work, the different ways of obtaining definite velocity ratios and definite changes of velocity, parallel motions and quick return motions as well as the designing of trains of mechanism for various purposes, together with the theoretical forms of teeth for gear wheels to transmit the motion through these trains, are investigated under this subject.



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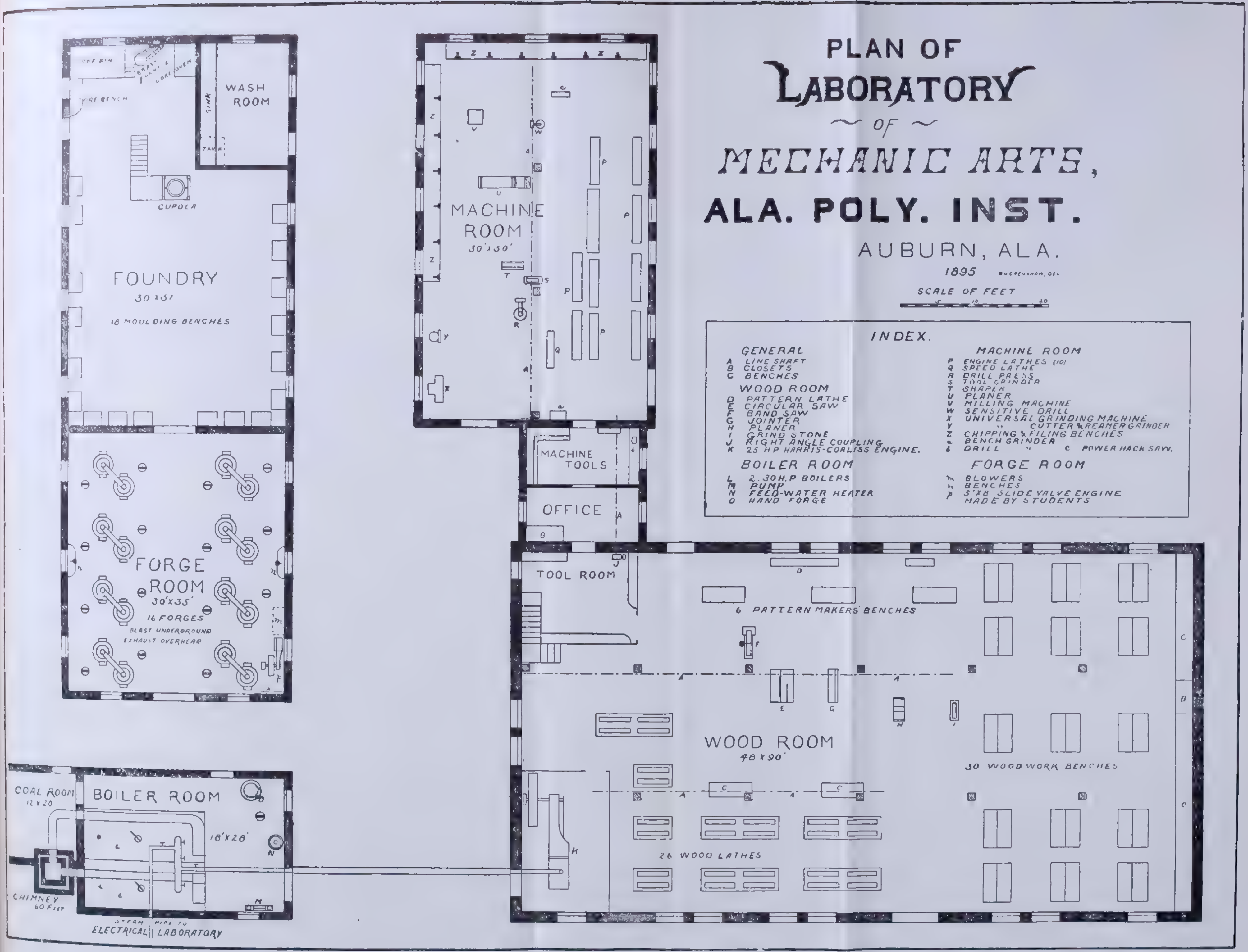
p	5"X8" SLIDE-VALVE ENGINE MADE BY STUDENTS.



PLAN OF LABORATORY
OF
MECHANIC ARTS,
ALA. POLY. INST.

AUBURN, ALA.
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n BENCHES
p 5"X8 SLIDE VALVE ENGINE MADE BY STUDENTS

Mechanical Drawing.—Fours hours a week during the year are devoted to drawing. During the first part of the year instruction is given in the conventional methods of representing standard materials, and in the design of fastenings and machine parts. Later on scale drawings of simple machines are made from dimensioned sketches which each student makes for himself from the actual machine. Free hand lettering, tracing, and blueprinting receive attention, and all the instruction is intended to familiarize the student with modern drawing office methods.

TEXT-BOOKS.

Wood's Elementary Mechanics, Barr's Kinematics of Machinery.

SENIOR YEAR.

Mechanical Engineering of Power Plants.—The first term, five hours per week, is given to the study of the practical applications of steam machinery. It is believed that a thorough knowledge of the apparatus in actual practical use is the best preparation a student can have for the study of the theory, and to that end, the different types of engines, boilers, pumps, condensers, and other auxiliary apparatus are taken up and studied in detail, and the advantages and disadvantages of each discussed. Extensive files of manufacturers' catalogues are kept and the technical papers and magazines in the library are freely used in order to keep in touch with the latest and best practice in engineering work.

Steam Engine.—The second term five hours per week will be given to the study of the theory and efficiency of the steam engine, with discussions of the effects of condensation in cylinder, action of fly wheels, effect of jacketing, etc. Simple and compound engines, various valves and cut-off motions, and the principal types of modern engines are studied. Special attention is given to the steam engine indicator.

Applied Mechanics.—The third term, four hours per week is given to work in this subject. Applications of the mechanical principles previously learned, are made to the solution of practical problems. Considerable attention is given to graphical methods, these being used in preference to the analytical when possible.

One hour a week for the third term is given to a series of lectures on mechanical refrigeration and gas and gasoline engines.

Machine Design.—The subject of machine design is made a continuation of the junior course and runs throughout the year, two hours a week. The general plan of the work follows the text-book adopted, but variations are made and additional exercises given when found desirable. The strength and proportion of joints, fastenings and machine details are studied. Problems are given, the dimensions worked out and the drawings made. It is the purpose of the course, as far as time will permit, to prepare students for practical drawing-room work.

Laboratory Work.—The students are not only taught how to calibrate and use the different instruments, but they are brought in contact with engineering appliances under practical working conditions.

Thoroughness of work is sought rather than the performance of a large number of experiments.

The following course has been arranged:

Calibration of steam gauge; calibration of indicator spring; calibration of thermometer; calibration of scales and balances; calorimeter tests with barrel, separating and throttling calorimeters; boiler test with determination of the quality of steam and analysis of flue gas; efficiency test of engine with brake and indicator power measurement; test of hot air pumping engine; efficiency and duty of a steam pump; tensional, compressional and transverse tests of cast iron, wrought iron, steel and wood, in which are observed the limit of elasticity, the ultimate breaking strength and the modulus of elasticity.

This class usually makes a test of some electric plant or mill some time in the last term.

The apparatus for carrying on this work consists of a 100-horse power Heine boiler, a 45-horse power Imperial cross compound engine, especially arranged for experimental work, supplied with Wheeler surface condenser and Worthington air pump and circulating pump; of a 25-horse power Harris-Corliss engine, a 35-horse power Westinghouse engine, a 25-horse power Atlas engine, two 9-horse power engines constructed by students in the shops; a Duplex Deane steam pump, an Ericsson hot air engine, a Westinghouse air pump, four steam engine indicators, a separating calorimeter, pyrometers, scales, a standard steam gauge with apparatus for testing steam gauges, a Crosby dead weight tester for correcting the standard gauge, a 35,000-pound testing machine, and Henning micrometer extensometer, a Carpenter calorimeter, with auxiliary apparatus for determining the heating value of different fuels, a draft gauge, and a Henning pocket recorder.

TEXT-BOOKS.

Hutton's Mechanical Engineering of Power Plants, Holmes's Steam Engine, Reid's Machine Design.

REFERENCE BOOKS.

The Library contains a number of standard works on the various subjects studied, and the students are referred to them constantly for more extended treatment of many points that come up in class.

POST-GRADUATE COURSE.

Considerable latitude is allowed in the selection of post-graduate work, and the course is arranged each year to suit the requirements of the class. One of the following lines of work is recommended: Hydraulics, Thermodynamics, or Power Plant Engineering. The course selected is accompanied by suitable laboratory work.

TEXT-BOOKS.

Flather's Dynamometers and Measurement of Power, Peabody's Thermodynamics of the Steam Engine, Merriman's Hydraulics.

AGRICULTURE.

PROFESSOR DUGGAR.

Instruction in agriculture is given by means of lectures, text-books, bulletins of the agricultural experiment stations, and practical work in field, barn, and dairy.

The study of agriculture begins with the freshman class in the third term, and extends through three terms of the sophomore year and two terms of the junior year. The time devoted to this study in the lecture room is two hours per week with each class.

The subjects studied by the freshman class are the breeds of horses, cattle, sheep and hogs—their characteristics, uses, management and adaptability to the South. Practical work in judging live stock occupies one afternoon per week during the second term. Five breeds of cattle, Angus, Red Polled, Shorthorn, Jersey, and Holstein, are represented in the herd maintained by this department.

The first term of the sophomore year is devoted to dairying. Dairying is taught by practical work in the dairy,—butter making, determination of fat in milk by the Babcock method, etc.,—as well as by instruction in the lecture room.

In the second term of the sophomore year the following subjects are studied: Soils—chemical and physical properties, defects, and means of improvement; the control of water, including means of conserving moisture in times of drought, terracing, underdrainage, and open and hillside ditches; objects and methods of cultivation; agricultural implements; rotation of crops; and improvement of plants by crossing, selection, and culture.

The third term of the sophomore year is devoted to the staple crops produced in Alabama, to forage plants adapted to the South, and to plants valuable for the renovation of soils. The more important crops are treated with reference to varieties, soil and fertilizer requirements, methods of planting and cultivating, and uses. Practice is given in judging and selecting corn and cotton and in the culture of these and other staple and forage crops.

In the junior year the subjects of feeding animals, principles of breeding animals, and of farm management are studied. Among the topics included under the latter heading are different systems of farming and stock growing, farm equipment and building, silos and silage, care of farm manures, composting, choice and methods of applying commercial fertilizers for different crops and soils, and economical methods of improving exhausted soils.

In every class the student is encouraged to independent thought on agricultural problems rather than to depend on "rules of thumb," so that he may be prepared to adapt his practice in after years to changed conditions of soil, climate, capital, market, etc. The successful farmer must be a thinker rather than a blind follower of inflexible rules.

The effort is made to keep before the student the difference between the widely applicable principles on which every rational system of farming rests and the details that vary with changing conditions. The conditions of soil, climate, etc., prevailing in different parts of Alabama are kept constantly in view.

As far as limited time allows, attention is directed to agricultural literature now accumulating so rapidly in this and in foreign countries, to the end that in future years the student may know where and how to seek the information that he may need.

The equipment for carrying on the practical work of the department consists of small herds of Red Polled, Shorthorn and Angus cattle; a herd of dairy cows which are used each winter in testing the relative values and profits in different foods; a small herd of Poland China hogs; a few other miscellaneous specimens of livestock; the fields and large collections of growing plants on the Experiment Station farm; the collection of agricultural implements employed in the work of the farm; and a working dairy, equipped with necessary appliances for making butter and testing dairy products.

POST-GRADUATE COURSE.

Applicants for post-graduate work in agriculture are assigned special research work and aided in the line of investigation deemed best for each individual student.

TEXT AND REFERENCE BOOKS.

Horses, Cattle, Sheep and Swine, by Curtis; The Study of Breeds, by Shaw; Milk and Its Products, by Wing; Dairyman's Manual, by Stewart; Soils and Crops of the Farm, Morrow & Hunt; Forage Plants, by Shaw; The Fertility of the Soil, by Roberts; Corn Culture, by Plumb; The Soil, by King; Physics of Agriculture, by King; Manures and the Principles of Manuring, by Aikman; Drainage for Profit and Health, by Waring; Agriculture in Some of Its Relations with Chemistry, by Storer; The Feeding of Animals, by Jordan; Feeds and Feeding, by Henry; Stock Breeding, by Miles; Hand-book of Experiment Station Work; and selected publications of the various divisions of the U. S. Department of Agriculture, and of the Agricultural Experiment Stations.

BIOLOGY AND HORTICULTURE.

PROFESSOR WILCOX.

1. COMPARATIVE ANATOMY OF THE SPERMATOPHYTES. A thorough study of the structure and activities of the plant cell will be followed by an examination of the typical tissues with special reference to their function. Students are required to become acquainted with the

THE
JOHN CRERAR
LIBRARY

general methods of botanical microtechnique, including the killing, fixing, imbedding, sectioning, staining, mounting and drawing of all the tissues examined.

Lectures and Recitations: Three hours per week during the fall term of the senior year.

Laboratory Work: Two hours per week.

2. PHYTOPHYSIOLOGY.—This is a course of carefully selected experiments, to be performed by each student, supplemented by selected readings, conferences and lectures upon certain subjects. It will be the aim of this course to develop a good, general knowledge of the most important functions of seed-plants, such as absorption, photosynthetic assimilation of carbon-dioxide, transpiration and respiration.

Lectures and Recitations: Three hours per week during the winter term of the senior year.

Laboratory Work: Two hours per week.

As a text, MacDougal's "Practical Text-Book of Plant Physiology" will be employed, while as a laboratory guide Ganong's "A Laboratory Course in Plant Physiology" will be used.

3. PHYTOPATHOLOGY.—The aim of this course is to present a broad and comprehensive view of the subject. A thorough study will be made of the principal sorts of parasitic fungi, but not to the exclusion of diseases produced by unfavorable surroundings and various inorganic factors.

Lectures and Recitations: Three hours per week during the spring term of the senior year.

Laboratory Work: Two hours per week.

4. RESEARCH AND THESIS WORK.—The following lines of work are open to students during this year:

(1) Comparative embryology of spermatophytes.
(2) Ecology and ecological anatomy.
(3) Physiology and morphogenesis.

(4) Advanced plant physiology.

(5) Advanced cytology.

It is expected that seniors will select work in one of these groups and that the results of the research will be presented as a thesis for publication.

HORTICULTURE.

At present special horticultural instruction is confined to the spring term of the junior year in the course of chemistry and agriculture, and to some practical work and "field lectures" to the students of the same course during the sophomore year. Instruction is given by lectures and text-books and by courses of reading, using the green house and orchards and gardens of the experiment station to give practical illustrations of the subjects taught.

It is expected that more extensive courses in horticulture will be provided for next year in connection with a new course in botany and horticulture.

PHYSIOLOGY AND VETERINARY SCIENCE.

PROFESSOR CARY.

ASSISTANT GOGGANS.

PHYSIOLOGY.

The sophomore class studies human anatomy, physiology and hygiene during the entire college year.

It is the aim of the department to give the students practical and real knowledge of the gross anatomy and functions of the various parts of the human body. Due attention is given, also, to the laws of health—the conditions most favorable to a continuous healthy action of the organs of the human body.

Instruction is given by lectures and by text books, supplemented by blackboard drawings, charts, models of organs, a human skeleton and by dissections of some of the smaller animals (dog, cat, etc.)

Martin's Human Body is used as a text and reference book, and several other works on anatomy, physiology and hygiene may be consulted in the college library.

VETERINARY SCIENCE AND ART.

Students in the agricultural and chemical course of study, during the entire junior and senior years, devote to this work two hours per week in the class room and three hours per week at practical clinics. Instruction in veterinary science and art is given by lectures.

The lectures are arranged with special reference to the students who are interested in horses or other domestic animals; also to those students who contemplate studying human or veterinary medicine. While it is not the aim to give a complete course in veterinary medicine, we attempt to present the general principles of comparative medicine with such special applications as are adapted to the conditions and wants of the students.

Special attention is given to the exterior anatomy of the horse, while comparative anatomy is presented mainly in connection with the study of the diseases of the different apparatus of the horse or other domestic animals.

Lameness in the horse, minor surgery, the actions and uses of the most common medicines, the principles and practice of comparative medicine, and the ways of protecting the health of domestic animals, are considered in as plain and practical a manner as the time allotted to each subject will permit. Post-mortem examination and the dissection of domestic animals are used as object lessons in the study of general pathology and anatomy.

The senior class in pharmacy devotes three hours per week, during the first and second terms, to the study of therapeutics; and three hours per week during the third term to class room and laboratory work in bacteriology.

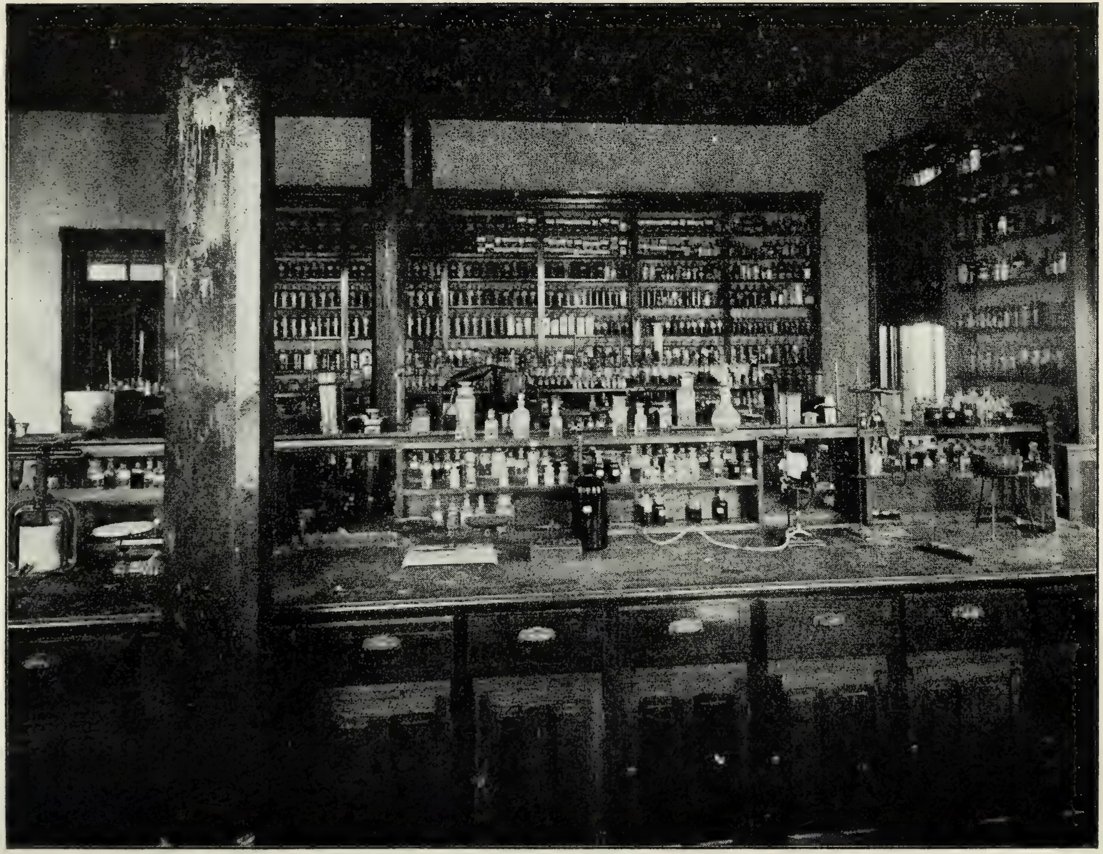
To the post-graduate student this department furnishes work in histology, pathology, bacteriology, meat and milk inspection. This work gives students who contemplate studying medicine excellent preparatory work along that line. Such students may devote one-half their time to work in this department with the approval of the Faculty.

Histology includes methods of injecting small animals, collecting fixing, hardening, embedding, section cutting, mounting, staining, examining under the microscope, drawing and describing the different tissues.

Pathology is studied in text and reference books and morbid histology embraces naked eye and microscopic examinations of diseased tissues in the laboratory. Quite a collection of diseased tissues and animal parasites are found in connection with the laboratory.

The laboratory is well fitted for the study of bacteriology. Bacteriological analysis of water, milk, sputum, pus, diseased tissues, and of soils can be made. All of the practical operations in the preparation of culture, media, sterilizations, inoculations of small animals, straining, microscopical examinations, may be learned. In the laboratory are three Bausch & Lomb and two Winkel microscopes, each of which is supplied with oil immersion objectives, two oculars, Abbe condenser, and iris diaphragm. Sterilizers, autoclaves, incubators, and all the necessary apparatus required in bacteriological work are to be found in the laboratory.

The department of physiology and veterinary science is now lo-



LABORATORY OF PHARMACY.

cated by itself in a building which consists of a two-story portion containing four laboratory rooms on the second floor and a lecture room, museum and office on the lower floor; and a one-story part which contains an operating room.

The building is supplied with water and gas and the laboratory is now equipped for work. The museum contains the skeletons of the horse, the ox, the sheep, and the hog, and a human skeleton. It also contains anatomical models of the various parts and organs of the human body, and models of many parts of the horse, the ox and the other domestic animals. It also contains a collection of pathological and anatomical specimens, and one of animal parasites.

The new veterinary hospital building contains five large box-stalls, four open single stalls, an office and a feed room on the lower floor; the upper floor is used as a storage room for hay, fodder, etc. The hospital is supplied with fresh water.

A new brick and cement dissecting room (16x32) has just been completed. It is supplied with extensive north skylight, and with water and gas.

Every Saturday during the college year the department conducts a free clinic for the benefit of the students in veterinary science and art. Clinical cases have been various and numerous, giving the students opportunity to see and study many diseases and lameness and to become proficient in minor operations.

PHARMACY AND PHARMACOGNOSY.

PROFESSOR MILLER.

ACTING PROFESSOR MASON.

JUNIOR YEAR.

Pharmacy.—Class work, *three hours* a week. The different systems of weights and measures. Specific gravity. Pharmaceutical problems. The fundamental operations in pharmacy. Apparatus used in pharmaceutical processes. Discussion of all classes of pharmaceutical preparations.

Laboratory, *nine hours* a week. Preparation of official and non-official galenicals.

Pharmacognosy.—Class work with laboratory work, *four hours* a week. All official vegetable drugs studied with aid of simple and compound microscope.

SENIOR YEAR.

Pharmacy.—Class work, *five hours* a week. Official and non-official pharmaceutical chemicals, inorganic and organic, including the more important newer remedies. The prescription. Incompatibilities. Doses.

Laboratory, *twelve hours* a week. Preparation of official and non-official pharmaceutical chemicals, inorganic and organic. Pharmaceutical testing by pharmacopœial methods. Drug assaying, special attention given to compounding of prescriptions.

Pharmacognosy.—Class work, with laboratory work, *four hours* a week. Study of important non-official vegetable drugs; of drugs of animal origin; of adulterants and worthless drugs. Practical exercises in identification of pharmaceutical preparations and chemicals.

The practical work in pharmacy includes the manufacture of not less than two hundred pharmaceutical preparations and the compounding of not less than fifty prescriptions.

The work in pharmacognosy includes the study of more than 300 drugs, each of which the student is required to recognize by its physical and chemical properties, giving Latin name, common name, origin, habitat, constituents, medicinal action and dose.

MILITARY SCIENCE AND TACTICS.

COL. B. S. PATRICK, COMMANDANT.

Military science and tactics are required by law to be taught in this institution. The law is faithfully carried out by imparting to each student, not physically incapacitated to bear arms, practical instruction in the school of the soldier, of the company and of the battalion

CORPS OF CADETS.

in close and extended order, also in guard mountings, inspections, dress parades, reviews, etc.

Under section 1225, U. S. Revised Statutes, the College is provided with modern cadet rifles and accoutrements. Ammunition for practice firing is used under the direction of an experienced officer. The exercises in target practice begin the first day of the third term.

The following uniform of standard cadet gray cloth has been prescribed for dress: Coat and trousers as worn for fatigue at West Point, with dark blue cadet cap. A neat and serviceable uniform can be obtained here at $15 to $16. This is less expensive than the usual clothing. All students are required to wear this uniform during the session.

The entire body of students is divided into companies. The officers are selected for military efficiency, good conduct and scholarship. The commissioned officers will be selected either from the senior or junior classes, and promotion will depend on merit and not wholly on seniority.

A band, composed of cadets, furnishes appropriate music at all reviews and parades, and on other special occasions.

A student who has once accepted an office cannot resign it except for reasons entirely satisfactory to the President and Commandant. The resignation of his office by a minor will usually not be considered without first placing all the circumstances of the case before his parent or guardian.

Candidates for appointment or promotion may be required to stand an examination. Moral fitness, including demerits, will be considered.

Examinations will be conducted by a board of officers, to be composed of the Commandant of Cadets and two commissioned officers, to be designated by him. The proceedings of the board are subject to revision and approval by the President of the College.

Each company is officered by one captain and two first lieutenants, one second lieutenant, and with a proper number of non-commissioned officers. The officers and non-commissioned officers are distinguished by appropriate insignia of rank. These appointments are confirmed by the President on nomination of the Commandant.

The junior class recites once a week in the United States Infantry Drill Regulations.

The senior class recites once a week in Wagner's Security and Information, and Manual of Guard Duty, U. S. Army.

On the graduation of each class the names of such students as have shown special aptitude for military service will be reported to the Adjutant-General of the U. S. army and the names of the three most distinguished in military science and tactics will be inserted in the U. S. Army Register, and published in general orders from headquarters of the army.

CADET BAND.

The cadet band is a part of the military organization of the College. It takes part in the military and other exercises, and plays when its services are required.

Regular and individual instruction is given free of charge by the band master. A text-book on general musical information is used in connection with the practical instruction.

A gold medal is given each year by the band master to the member of the band who makes the best general record for the year. The presentation is made at Commencement.

MISCELLANEOUS.

GYMNASIUM AND ATHLETIC FIELD.

The gymnasium is situated at the west end of the athletic and drill grounds, and contains one room, 80x40 feet, with strong beams above for fastening the usual fixtures.

It is equipped with Spalding's gymnasium apparatus and is open to all students at stated hours, under the care of an officer.

The athletic field has a quarter-mile cinder track and ample space for football, baseball and general athletics.

DISCIPLINE.

The government of the College is administered by the President and Faculty in accordance with the code of laws and regulations enacted by the Trustees.

Attention to study and punctuality in attendance in recitations and all other duties, are required of every student. Students are prohibited from having in their possession arms or weapons not issued for the performance of military duty, and also from using or causing to be brought into the College limits, intoxicating liquors.

Students are not permitted to participate in any public entertainment, or game, without previously obtaining the consent of the Faculty.

No cadet will be permitted, without the approval of his parent or guardian, to take part in a public game of football; nor will permission be given for any athletic game to a student deficient in his studies.

MILITARY DRILL.

There are three regular military drills each week and all undergraduate students, not physically incapacitated to bear arms, are required to engage in these exercises; privates of the senior class are exempt.

The drills are short and the duty involves no hardships. The military drill is a health-giving exercise, and its good effects in the development of the *physique* and improvement of the carriage of the cadet are manifest.

RELIGIOUS SERVICES.

Religious services are held every morning in the chapel.

All students are required to attend these exercises, and also to attend the church of their choice at least once on Sunday.

Opportunities are also offered for attending Bible classes every Sunday.

YOUNG MEN'S CHRISTIAN ASSOCIATION.

This association is regularly organized and has a well furnished room on the first floor of the main building set apart for its exclusive use. Through its weekly meetings it exerts a wholesome Christian influence among the students.

Students are advised to unite with the Association when they enter the Institute.

The ladies of the different churches in Auburn have recently formed an auxiliary association to the Y. M. C. A. of this Institute. Assisted by members of the Faculty, they will hold monthly a joint service of praise in the College chapel and will provide lectures for the occasion.

They have also undertaken to build a special hall for the use of the Association, and will solicit subscriptions for that purpose.

The following are the officers:

W. B. Hamilton	President.
J. O. Webb	Vice-President.
W. W. Rutland	Corresponding Secretary.
F. C. Atkinson	Recording Secretary.
W. L. Thornton	Treasurer.
F. B. Rutledge	Librarian.

LOCATION.

The Institute is situated in the town of Auburn, fifty-nine miles east of Montgomery, on the line of the Western Railroad.

The region is high and healthful. noted for its general good health and freedom from malaria, having an elevation of eight hundred and twenty-six feet above tide-water. By statute of the State, the sale of spirituous liquors and keeping saloons of any kind are forbidden.

BOARDING.

The Institute has no barracks or dormitories and the students board with families in the town of Auburn, and thus enjoy all the protecting and beneficial influence of the family circle.

REGULATIONS.

(1) Each student upon entering is required to sign his name in the matriculation book and pledge himself to obey the rules and regulations of the College.

(2) Every absence from recitation or examination is graded zero.

(3) When the term grade of a cadet is lowered by reason of absence for which satisfactory excuse can be rendered, a special term re-examination may be subsequently granted, and the grade made on the special re-examination alone is substituted for that previously received.

(4) Only sickness, as reported by the Surgeon, or being absent by reason of family sickness, will constitute a satisfactory excuse for granting a re-examination.

When a cadet is called away from College by his parents his zeroes for absence are not removed.

(5) The term grade of a student is the average of his daily sessional and term examination marks, found by giving due weight to the term examination.

(6) Privates of the senior class in full standing who are candidates for graduation may be excused by the President from all military drills, and also students over twenty-one years of age at the time of entering College that are permitted to devote their time to one special study, as chemistry, agriculture or pharmacy, provided the time devoted to drill is spent by them in laboratory work.

No cadet can continue an officer in the corps who during a session is classed in the fourth grade in two or more subjects at any term examination, or in the fourth grade in one subject at two term examinations; nor who receives during the session more than 60 demerits. For failures of officers re-examinations will not be granted.

DISTINCTIONS.

Distinctions are awarded in the different subjects of each class to those students whose grade for the entire year is above ninety per cent.

Certificates of distinction are awarded in public on Commencement day to those who obtain an average of 90 per cent. in all the prescribed studies of a regular class; and also to those who obtain three distinctions in the freshman class, four in the sophomore class, five in the junior class, and six in the senior class, provided they have satisfactorily passed all the regular examinations of that session, and have not received forty demerits during the year.

A distinction is not given in the senior class if the average grade in any one subject is less than 75 per cent.

HONORS.

Members of the senior class who attain distinction at the final examinations with an average grade, in the subjects required, of 95 per cent. will be published as

GRADUATES WITH HIGHEST HONOR.

Those who attain distinction with an average grade of 90 per cent. and less than 95, are published as

GRADUATES WITH HONOR.

Those who attain less than 90 per cent. and more than 60 per cent. are published as *Graduates*.

Students of the classes lower than the senior, who attain distinction with an average grade in the required subjects of 95 per cent. are published in alphabetical order as having attained the *Highest Distinction*.

RECORDS AND CIRCULARS.

Daily records of the various exercises of the classes are kept by the officers of instruction.

At the close of each term and at regular intervening intervals reports, giving the grade made by each student, are sent to the parent or guardian.

EXAMINATIONS.

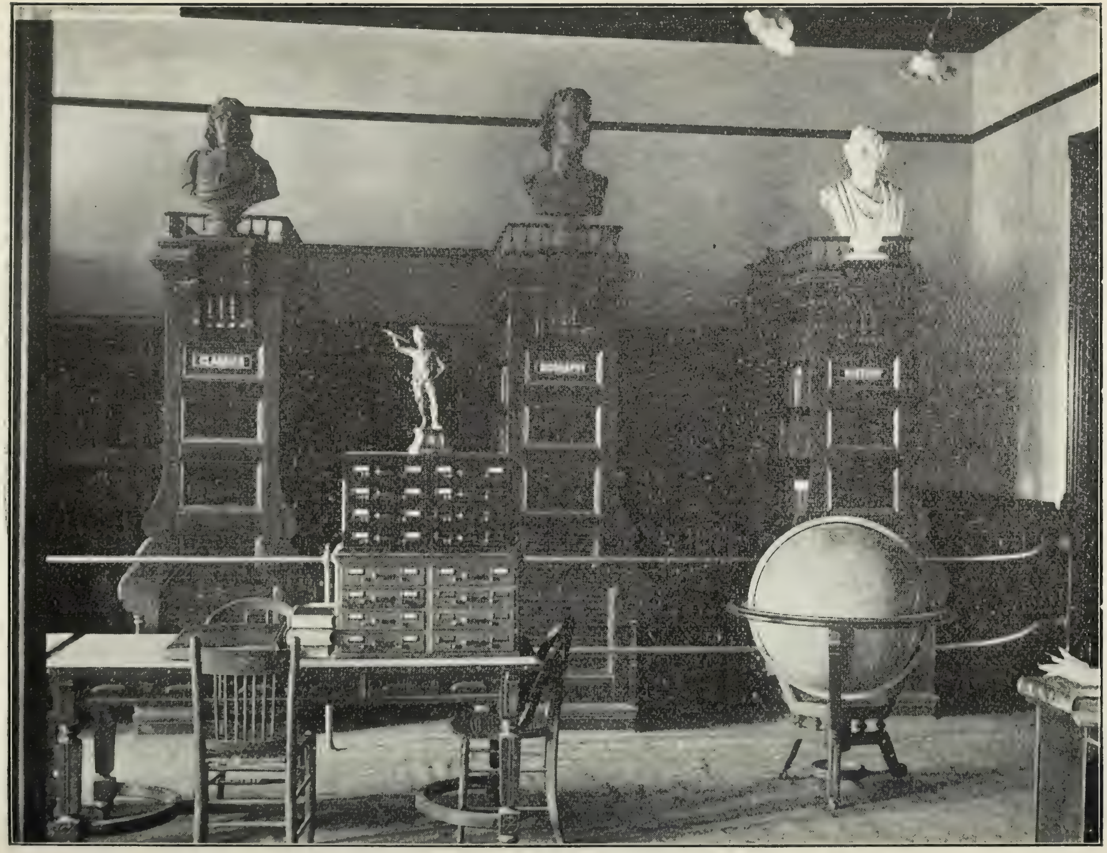
Written examinations on the studies of the month are held by each professor during the months of October, February and April. Each examination occupies one hour.

At the end of each term written examinations, or written and oral, are held on the studies passed over during that term.

Special examinations are held only by order of the Faculty, and in no case will private examinations be permitted.

Students falling below the minimum grade at the final examinations, can be promoted to full standing in the next higher class only on satisfactory examinations at the opening of the next session.

It is required that every student who enters the College shall remain through the examinations at the end of the term. Leaves of absence and honorable discharges will, therefore, not be granted within three weeks of the examination, except in extreme cases.



GENERAL LIBRARY.

LIBRARY.

The Library occupies an elegant, well-lighted room in the main building, and also two smaller adjacent rooms. It contains over 16,000 bound volumes, including valuable reference and scientific books, with select editions of standard authors, and others suitable for students, carefully and recently selected. It is kept open eight hours daily for the use of students as a reading room and is thus made an important educational feature.

MUSEUM.

The Museum occupies a large room in the third story. It is provided with suitable cases and is equipped with valuable specimens and models of an instructive character. It is under the charge of Professor P. H. Mell, to whom specimens as contributions may be sent.

BOARDING HOUSES.

For each house an inspector is appointed, whose duty it is to report those who, without permission, leave their rooms after "call to quarters," or are guilty of any violation of order. The report of the inspector is made to the Commandant on alternate days of the week.

Students, after selecting their boarding houses, are not permitted to make changes without obtaining permission from the President, and this permission is given only at the close of a term, except for special reasons.

Permission to board and lodge at separate houses will be granted only to seniors, to cadets twenty-one years of age and to those who are on the "honor roll," except on special conditions.

EXPENSES.

There is no charge for tuition for a resident of Alabama.

Incidental fee, per session	$5.00
Library fee, per session	2.00
Surgeon's fee, per session	5.00
	$12.00

These fees are payable on matriculation. By order of the Trustees no fees can be remitted.

For students entering after January 1st, the fees for a half session only are required.

Board, including lodging, fuel and lights, is furnished at $12.50 to $15.00 per month.

For a non-resident of the State there is a charge for tuition of $20.00 per session, payable on matriculation, in addition to the annual fee of $12.00 payable by all students.

The necessary expenses for a session, not including uniforms or books, are for a resident of Alabama, as follows:

College fees	12.00	12.00
Board, lodging, fuel and lights	112.50	135.00
Washing	9.00	9.00
Total	$133.50	$156.00

By special arrangement with the College authorities, Mrs. M. L. Mitchell, Mr. R. S. Rutland and Mr. B. T. Blasingame will accommodate students with board, lodging, fuel, etc., for $9.50 per month.

By boarding at one of these houses the necessary expenses may be reduced to $106.50 per session. This estimate does not include the cost of the uniform, about $15.00, or of books, say from $5.00 to $15.00, or the laboratory fees in the higher classes, $5.00 or $10.00.

LABORATORY FEES.

For each student in the junior or senior laboratory in chemistry, or in electrical and mechanical engineering, a fee of $5.00 per session is required. This fee is payable on admission to the laboratory, and is not remitted.

NON-RESIDENT STUDENTS.

Tuition for students, not residents of Alabama, is $20.00 per session, unless remitted by the Trustees to worthy students upon the recommendation of the Faculty.

The remission of this tuition fee to non-resident students will be granted in the form of a free scholarship for the succeeding year, to those who obtain a distinction the preceding year or who, by reason of merit, are deemed worthy.

This tuition for non-residents is remitted to sons of ministers of the gospel.

HONOR SCOLARSHIPS.

The following non-resident students were granted, each by reason of special merit in conduct and scholarship during the session of 1900-1901, an honor scholarship, which exempted from tuition fees:

James Henderson Childs	Georgia.
Berner Leigh Shi	Georgia.
Dudley Chipley	Florida.
Sallie Fleming Ordway	Tennessee.
Walker Dorr Willis	Florida.
John Eayres Davis Yonge	Florida.
Karl Edward Lindrose	Mississippi.
Henry Edward Werner	Texas.

UNIFORM.

A uniform of cadet gray cloth is prescribed, which all undergraduate students are required to wear during the session. The uniforms are made, by a contractor, of excellent cloth manufactured at the Charlottesville mill. This suit, including cap, costs at present $15.50. It is neat and serviceable, and less expensive than ordinary clothing.

CONTINGENT FEE.

A contingent fee of five dollars is required to be deposited by each student on matriculation, to cover any special or general damage to College property for which he may be liable. General damages are assessed on the body of students.

At the close of the session the whole of the contingent fee, or the unexpended balance, is refunded to the student.

AMOUNT OF DEPOSIT.

Fees to be paid on entrance:

Incidental fee	$5 00	
Library	2 00	
Surgeon	5 00	
Contingent fee	5 00	
Uniform	15 50	
For a resident of Alabama	$32 50	$32 50
Tuition non-resident		$20 00
For a non-resident		$52 50

Besides the above, the student should deposit with the Treasurer enough to pay for books, one month's board, incidentals, amounting to, say, $27.50. Hence, a resident of Alabama should deposit with the Treasurer $60.00; a non-resident, $75.00.

FUNDS OF STUDENTS.

Parents and guardians are advised to deposit with the Treasurer of the College all funds desired for sons, or wards, whether for regular charges of college fees or board, or for any other purpose. It is the duty of this officer to keep safely all funds placed in his hands, and to pay all expenses incurred by the students, including board, uniform, books, etc., when approved.

When funds are deposited checks are drawn on the Treasurer of the College by the Cadet to pay his necessary expenses. These checks are paid only when officially approved. The approval is given only for necessary expenses, as stated in the catalogue, unless specially requested in writing by the parent.

The College cannot be held responsible for the expenses of a student, unless the funds are deposited with the Treasurer. No student should be permitted to have a large amount of pocket money, as it brings only trouble and encourages idleness.

THESIS.

Each applicant for a degree is required to write and submit to the Faculty a thesis, or oration, and read and deliver the same at Commencement, if required by the Faculty.

There may be presented, with the approval of the professor in charge, a carefully written report of special work done in a laboratory showing independent investigation and discussion of some subject.

It must be given to the Professor of English by the first of May.

The subject must be submitted for approval by January 1st.

LITERARY SOCIETIES.

There are two literary societies connected with the College—the Wirt and the Websterian. Each has a hall in the main building.

These societies hold celebrations on the evenings of Thanksgiving Day and 22nd of February. A gentleman, selected by the Faculty, is invited to deliver an address before the Literary Societies at Commencement.

To encourage the literary societies the Trustees have directed that a medal be awarded on Commencement day to the member of each society who is both efficient and regular in attendance, and who is the best debater. The method of selection to be determined by the Faculty.

EXERCISES IN ELOCUTION.

On every Saturday morning, immediately after chapel services, oratorical exercises in declamation and in original orations are conducted by the Professor of English, in the presence of the Faculty and students.

The *first and second terms* the students of the junior and sophomore classes are exercised in original orations and declamations.

The *second and third terms* the members of the senior class read essays or deliver original orations.

SOCIETY OF THE ALUMNI.

In 1885, the Alumni Society established "The Alumni Scholarship," which makes an annual loan of one hundred and seventy dollars to a beneficiary elected by the society. Young men have thus been enabled to go through college. This scholarship is supported by annual contributions from the Alumni and other friends of the institution.

The beneficiary selected is admitted without charge for tuition or college fees of any character.

Subscriptions should be sent to B. H. Crenshaw, Treasurer, Auburn, Ala.

The annual alumni oration is delivered by a member of the society in Langdon Hall, on Alumni Day, Tuesday of Commencement week.

The following are the officers of the society :

R. F. Ligon, Montgomery, Ala	President.
T. D. Samford, Opelika, Ala	First Vice-President.
	Second Vice-President.
B. H. Crenshaw, Auburn, Ala.	Treasurer.
W. O. Scroggs, Auburn, Ala	Secretary.
J. F. Webb, Talladega, Ala	Orator for 1902.

SURGEON.

The surgeon is required to be present at the College daily, to visit at their quarters the cadets that are reported sick, and to give all requisite medical attention without other charge than the regular surgeon's fee, paid on entering college.

ACADEMIC YEAR.

The academic year for 1902-1903 commences on Wednesday, 10th September, 1902, (*second Wednesday after the first Monday,*) and ends on Wednesday, 10th June, 1903, (*second Wednesday after first Monday*), which is Commencement Day.

It is divided into three terms. The first term extends from the opening of the session to the 23d December; the second term begins January 6th, and ends March 14th; the third term continues to the close of the session.

DONATIONS TO THE LIBRARY.

U. S. Government.—Public Documents, 193 volumes.

James W. Stewart, Cleveland, Ohio.—Mark Hanna and Other Essays, by Solon Lauer.

T W. Palmer, Tuscaloosa, Ala.—Official Register of the Officers and Students of the University of Alabama.

Henry T. Coates & Co., Philadelphia.—Casting of Nets, by Richard Bagot.

American Swedenborg Printing and Publishing Society, New York.—The Works of Emanuel Swedenborg, 21 volumes.

Mrs. M. E. Bell, Auburn, Ala.—Church Book of the Ash Creek (Ala.) Baptist Church, 1833-1868.

H. H. Meadows, Atlanta, Ga.—Steam: Its Generation and Use, by Babcock & Wilcox Co.

B. F. Johnson Publishing Co., Richmond, Va.—Elements of Agriculture, by James Bolton McBryde.

Paul I. Murrill, Hickory, N. C—Alkaloidal Estimation, by P. I. Murrill.

DONATIONS TO COLLEGE MUSEUM

During Session of 1901-1902.

By A. R. Gray, stalagtite from Marion County, Florida; by R. W. Butler, double egg; by Mr. Motley, relic found on Ogletree plantation, near Auburn, Ala.; by M. T. Fullan, skin of boa constrictor from Nicaragua; by James C. Harper, sigillarids from near Birmingham; fossil fern from near Birmingham; by J. R. St. John, Spanish sword; by Miss Mary E. Reese, Indian pipe of peace; by F. J. Houston, cartridge of shell fired from the torpedo boat Porter; by University of Alabama, slate from Clay county; mica schist from Coosa county; slate from Tallapoosa county; tourmalin, graphitic mica schist, mica schist with granite, granite, magnetite, zinc, lead and chert, diorite, quartzite, garnets, quartz rock, zinc blend, actinolite schist, graphite schist, mica schist with garnets, staurolite schist, Talladega slate, corundum, pyrite, Talladega conglomerate, cyanite, gypsum, calcite crystals, barite, plicated slate, Ashland mica schist, gypsum with salt, chrysolite slate, igneous rock,; by Jones-Williams, Indian pipe of peace, shark's tooth; by A. M. McNeel, fossil starfish, shark's teeth, other fossils, iron pyrites, trilobite, petrified bark, fossil oyster shells, fossil vertebra of fish; by C. E. Field, snake; by A. F. Jackson, Florida moss, shells; by Mrs. Dowdell, geode; by E. L. Reese, Indian grinding rock; by Mrs. Lizzie Matthews, petrified wood; by A. S. Hertz, book of flowers from the Holy Land; by S. L. Coleman, coral; by Mrs. O. D. Smith, red iron; by Dudley Chipley, rock from

Niagara Falls, satin spar from England; by J. F. Duggar, cowpea roots with tubercles, cowpea roots with nematodes; by A. F. Whitfield, human skull; by B. S. Patrick, old A. P. I. cadet flag, old East Alabama College cadet flag; by Dr. Remus Persons, insects and shells collected in and around Manila; shells gathered on beach near Yokohoma, Japan; saw of sawfish; venus shells from near Colon.

DONATIONS TO AGRICULTURAL DEPARTMENT.

2 vials almit from Farbenfabriken Elberfield Co., New York City.

1 package Swift's arsenate of lead, from Merrimac Chemical Co., Boston, Mass.

5,720 lbs. of Kanit, from German Kali Works, New York City.

1,120 lbs. muriate of potash, from German Kali Works.

1 quart Sanders corn, from W. S. Sanders, Damerville, Ga.

900 lbs. Nitrate of Soda, from Propaganda Nitrate of Soda, New York City.

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1902/03

ALABAMA POLYTECHNIC INSTITUTE

AUBURN
ALABAMA
1903

CALENDAR, 1903-1904.

Session Begins	Wednesday, Sept. 9, 1903.
Examination for Admission	Wednesday, Sept. 9, 1903.
First Term Begins	Wednesday, Sept. 9, 1903.
Literary Society Celebration—Thanksgiving Day	Nov. 26, 1903.
First Term Ends	Tuesday, Dec. 22, 1903.
Second Term Begins	Tuesday, Jan. 5, 1904.
Literary Society Celebration	Monday, Feb. 22, 1904.
Senior Class Exercises	Monday, Feb. 22, 1904.
Second Term Ends	Saturday, March 12, 1904.
Third Term Begins	Monday, March 14, 1904.
Senior Thesis Reported	Saturday, April 30, 1904.
Sophomore Class Exercises	Saturday, April 30, 1904.
Field Day	Saturday, April 30, 1904.
Final Examinations Begin	Saturday, May 21, 1904.
Commencement Sermon	Sunday, June 5, 1904.
Annual Meeting of Trustees	Monday, June 6, 1904.
Military Exercises, 4 P. M.	Monday, June 6, 1904.
Junior Class Celebration, 8 P. M.	Monday, June 6, 1904.
Alumni Day	Tuesday, June 7, 1904.
Military Exercises, 5 P. M.	Tuesday, June 7, 1904.
Address Before Literary Societies, 8 P. M.	Tuesday, June 7, 1904.
COMMENCEMENT DAY	Wednesday, June 8, 1904.

MAIN BUILDING
ALABAMA
POLYTECHNIC INSTITUTE
J. Manz Co. Eng. Chi.

CATALOGUE

OF THE

ALABAMA POLYTECHNIC INSTITUTE

STATE COLLEGE

FOR THE

BENEFIT OF AGRICULTURE AND THE MECHANIC ARTS

AUBURN, ALABAMA

1903

MONTGOMERY, ALABAMA
THE BROWN PRINTING COMPANY, PRINTERS AND BINDERS
1903

TRUSTEES.

His Excellency, WILLIAM D. JELKS, President	*Ex-Officio.*
ISAAC W. HILL, Superintendent of Education	*Ex-Officio.*

TERM EXPIRES, 1905.

J. M. CARMICHAEL	Montgomery, Ala.
W. K. TERRY	Birmingham, Ala.
T. H. FRAZER	Mobile, Ala.
T. D. SAMFORD	Opelika, Ala.

TERM EXPIRES, 1907.

JONATHAN HARALSON	Montgomery, Ala.
*THOMAS WILLIAMS	Wetumpka, Ala.
J. A. BILBRO	Gadsden, Ala.

TERM EXPIRES, 1911.

R. F. LIGON	Montgomery, Ala.
TANCRED BETTS	Huntsville, Ala.
WM. C. DAVIS	Jasper, Ala.

E. T. GLENN, Treasurer. J. H. DRAKE, M. D., Surgeon.

R. W. BURTON, Secretary.

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*Died April, 1903.

FACULTY AND OFFICERS.

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Professor of English and Political Economy.

OTIS DAVID SMITH, M. A., LL.D.,
Professor of Mathematics.

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Professor of Civil Engineering and Drawing.

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Professor of General and Agricultural Chemistry, and
State Chemist.

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Professor of Physiology and Veterinary Science.

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*——————————
Professor of Geology and Mineralogy.

ROBERT JEFFERSON TRAMMELL, C. E.,
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MICHAEL THOMAS FULLAN, M. E.,
Assistant Professor of Mechanic Arts.

†CLIFFORD LeROY HARE. M. Sc.,
Assistant Professor of Chemistry.

ARTHUR McBRYDE RANSOM, M. Sc.,
Acting Assistant Professor of Chemistry.

WILLIAM OSCAR SCROGGS, M. Sc.,
Acting Librarian, and Assistant in English.

REUBEN DAVID WEBB, M. Sc.,
Assistant in English.

WILLIAM WELCH HILL, E. AND M. E.,
Assistant in Mechanic Arts.

JAMES COCHRAN PHELPS, M. Sc.,
Assistant in Chemistry.

FREDERICK GREENVILLE MATTHEWS, M. Sc.,
Assistant in Veterinary Science.

DALLAS TABOR HERNDON, B. Sc.,
Assistant in Sub-Freshman English and Mathematics.

ENRICO ALFONSO WASHINGTON, B. Sc.,
Assistant in Civil Engineering and Drawing.

JOHN EAYRES DAVIS YONGE, B. Sc.,
Assistant in English.

‡OLIVER HANNIBAL ALFORD, B. Sc.,
Assistant in Chemistry.

---

*To be filled.

†Absent on leave.

‡Vice C. A. Collins, resigned.

*WILLIAM BEE STOKES,
Assistant in Electrical Engineering.

KATE MEADE LANE, M. Sc.,
Assistant in History and Latin.

WILLIAM BULGER HAMILTON, B. Sc.,
Assistant in Mechanic Arts.

FREDERICK CORNELIUS ATKINSON, B. Sc.,
Assistant in Pharmacy and Biology.

CHARLES HOMER BILLINGSLEY, B. Sc.,
Assistant in Agriculture.

---

*Vice W. C. Cole, resigned.

COMMITTEES OF THE FACULTY.

Committee on Discipline,
Professors Smith, Ross, Wilmore.

Committee on Entrance Examinations,
Professors Smith, Petrie, Crenshaw, Wiatt.

Committee on Examination of Special Students,
Professors Wilmore, Dunstan, Miller.

Committee on Public Lectures,
Professors Petrie, Dunstan, Southall.

Committee on Library,
Professors Petrie, Wiatt, Miller, Duggar.

Committee on Athletics,
Professors Ross, Dunstan, Wilcox.

Committee on Grounds and Buildings,
Professors Wilmore and Mackintosh.

Secretary of Alumni Record,
Professor Crenshaw.

AGRICULTURAL EXPERIMENT STATION.

COMMITTEE OF TRUSTEES ON EXPERIMENT STATION.

J. M. Carmichael	Montgomery, Ala.
†Thomas Williams	Wetumpka, Ala.
Jonathan Haralson	Montgomery, Ala.

STATION COUNCIL.

Chas. C. Thach	President and Acting-Director.
B. B. Ross (State Chemist)	Chemist.
C. A. Cary	Veterinarian.
J. F. Duggar	Agriculturist.
E. M. Wilcox	Biologist and Botanist.
R. S. Mackintosh (State Horticulturist)	Horticulturist.
J. T. Anderson	Associate Chemist.

ASSISTANTS.

*C. L. Hare	First Assistant Chemist.
A. McB. Ransom	Acting First Assistant Chemist.
Thomas Bragg	Second Assistant Chemist.
J. C. Phelps	Third Assistant Chemist.
T. U. Culver	Superintendent of Farm.
Jesse M. Jones	Assistant in Animal Husbandry.
G. F. Freeman	Assistant to Director.

OFFICER IN CHARGE OF FARMERS' INSTITUTES.

Dr. C. A. Cary.

---

*On leave.

†Died April, 1903.

The Institute is a distinctive school of Science, and its applications; being also the State College for the benefit of Agriculture and the Mechanic Arts, established by the State in 1872 by endowing it with the land-grant appropriation made by the United States Congress in 1862.

The leading object of the Institute, in conformity with the act of Congress and the acts of the State Legislature, is to teach the principles and applications of science.

In its course of instruction it gives prominence to the sciences and their applications, especially to those that relate to agriculture and the mechanic arts; and at the same time the discipline and liberal education obtained by the study of language and other sciences are not neglected.

All students are required to study the English language. The Latin, French and German languages are also taught, and opportunity for their study is offered to students in any course.

The special and technical instruction given is thus based on a sound, general education.

In its different courses of education, work of great value to the youth of the State is accomplished by fitting them by a thorough science-discipline, in which manual training in the lower classes is made a prominent feature, for the successful and honorable performance of the responsible duties of life.

While every attention is given to the mental discipline of the students in endeavoring to train them to habits of accurate scientific thought, and thus to qualify them for the duties of life, their moral and Christian training will always constitute the prominent care and thought of the Faculty. The Institute thus endeavors to educate as well as instruct, to form character as well as give information of value.

LABORATORIES AND FACILITIES FOR INSTRUCTION.

The Institute now possesses facilities for giving laboratory instruction in applied science in the following departments

I. IN AGRICULTURE.

The farm contains 304 acres, and is supplied with illustrative specimens of stock of select varieties.

The agricultural experiment station, established in connection with the College, where experiments and scientific investigations relating to agriculture are daily made, affords unusual opportunities to students to become familiar with agriculture, its defects and remedies.

The students of agriculture accompany the professor in the field, garden, conservatory, stock-yard, etc., where lectures are delivered in the presence of the objects discussed, and during the year exercises in practical agriculture of an educational character are given the students who enter upon this course of study.

II. IN MECHANIC ARTS.

The instruction in shop work is used as an auxiliary in technical education, and as a school of manual training in the arts that constitute the foundation of most industrial pursuits. The work performed by the students is instructive in character, and is intended to give the greatest amount of instruction in principles with the least repetition of operations, and the smallest consumption of time. The work is executed from drawings, and the instructor in charge of the classes makes the lesson before the class, or gives such specific directions as may be necessary to enable the student to make it. This is supplemented by individual instruction.

All students in the Sub-Freshman, Freshman, and Sophomore classes take this shop work, three periods a week, each period being two hours long. The purpose is not to teach a trade, but to train the eye, the hand, and the mind to more perfect coördination, a training which will be of value in any pursuit of life. This training involves the principles at the foundation of all trades, and is, therefore, of equal value to a student who wishes afterward to learn a trade.

Three phase electric motors are used for driving the different shops, the motors receiving current from the large alternator in the dynamo room. The wood department is located in a room 90x50 feet, and is provided with a surface planer, a combination circular saw, a band saw, a buzz planer, a pattern-maker's lathe, a grindstone, twenty-four wood turning lathes, each with a set of wood turning tools, and thirty benches for carpenter work, with the necessary tools. Special tools for occasional use are kept in a tool room for the purpose, and in addition to the regular carpenter tools in the benches, each student is supplied with a set of chisels and plane irons with a locker to keep them in, and is held responsible for their care and condition.

The forge shop is equipped with twenty-four down draft forges, with anvils, hammers, sledges, and other tools necessary for blacksmith work, including a punch and shear for cutting and punching iron, and a blacksmith drill. The blast is supplied by a blower which is also used for supplying the foundry cupola with blast. The smoke from the forges is removed through underground passages by a 60-inch exhaust fan, and discharged into the chimney.

The foundry is equipped with a 23-inch Colliau cupola, having a melting capacity of 2,000 pounds of iron per hour, the necessary molding tools for bench and floor work, benches, a core oven, ladles, molding flasks, a foundry crane, etc. There is also a brass furnace with crucibles, crucible tongs and the appliances necessary for making brass castings.

The machine shop is a room 30x100 feet, and is equipped with eight 14-inch, two 16-inch, and one 18-inch engine lathes, one 10-inch speed lathe, a 20-inch drill press, a 10-inch sensitive drill, a 15-inch shaper, two iron planers, one 22-inch by 5-feet and the other 26-inch by 6-feet, a back geared universal milling machine with vertical milling attachment, a water tool grinder, a bench grinder, a universal grinding machine, a universal cutter and reamer grinder, a twist drill grinder, and a power hack saw. Three of the engine lathes have compound rests, three have taper attachments, and one is fitted with a turret and a large number of special tools and fixtures which practically converts it into a manufacturing lathe, and serves to illustrate the methods of manufacture by duplicate parts.

For chipping and filing, eighteen benches are fitted with vises and each student is supplied with hammer, chisels, files, and such other tools as he may need, and a locker in which to keep them. A gasoline engine is installed in one end of the shop, and is used for driving at times when the steam plant is not running.

The tool room is supplied with general machinist tools, such as chucks, drills, reamers, taps, dies, gauges, jigs, and special tools. A convenient room is supplied with lockers for keeping clothes, and basins supplied with hot and cold water for the use of the students. The different shops are equipped with electric lamps, and current is furnished when necessary.

III. IN PRACTICAL CHEMISTRY.

The chemical laboratory is supplied with modern apparatus, and in its equipment affords excellent facilities for instruction in practical chemistry and for investigation.

The investigations that are undertaken in this laboratory by scientific experts, in connection with the work of the agricultural experiment station, are of especial value to advanced students, and afford them unusual opportunities to learn the methods of scientific research.

The building contains a large general laboratory that accommodates sixty students, a special laboratory for Seniors that will accommodate thirty students, a lecture room with a capacity for one hundred seats, and nine other rooms, all appropriated to instruction and research in chemistry.

IV. IN ELECTRICAL ENGINEERING.

The electrical laboratory is well supplied with modern appliances for instruction in electrical engineering. It occupies three large rooms in the basement, and is equipped with many instruments of precision.

In addition to resistance boxes, bridges, condensers, galvanometers, dynamometers, wattmeters, photometers, and other laboratory instruments, the department is supplied with representatives of most of the types of commercial electrical instruments from foreign and domestic makers.

The laboratory is also equipped with apparatus for making breakdown tests of insulating materials, up to 30,000 volts, also with spectroscopic apparatus for testing the quality of arc light carbons.

The dynamos occupy a separate building and are operated by a twenty-five horse power Atlas engine, and a sixty horsepower Harrisburg standard engine.

The following machinery is available for purposes of instruction. In direct currents: Twenty-five K. W. General Electric multipolar 125 volt generator; twelve K. W. Edison generator; seven and a half K. W. T.-H. generator; three K. W. Edison generator; three K. W. Weston generator; two and a half K. W. Star generator; nine-light T.-H. arc generator, with lamps; six-light Brush arc generator, with lamps; steam turbine headlight generating set; three twenty-horse power street railway motors; six-horse power motor; one-horse power Crocker-Wheeler motor; several small motors of various kinds.

In alternating currents: Seventy-five K. W. Bullock three phase 220 volt revolving field generator; three K. W. Ideal three phase generator, with set of pulleys for different speeds; one K. W. Fort Wayne alternator, which can be used as an alternator, or as an A. C. or D. C. motor; two ten-horse power Westinghouse three phase motors, with autostarters (used for supplying power to shops); General Electric five-horse power three phase motor; Stanley one-horse power two phase motor; a number of transformers, including phasing transformers, transforming from 220 volts three phase to 500 volts two phase; several smaller A. C. motors of various patterns.

V. IN PHYSICS.

The physical laboratory occupies two rooms, one of these being permanently darkened for experimental work in light.

It is equipped with numerous standard instruments of precision, such as verniers, micrometers, cathetometers, a horizontal comparator, a Kater's reversion pendulum, balances, etc., and a quantity of minor apparatus.

Recently there has been added a concave grating spectrograph, a large induction coil of 12-inch spark, and other apparatus of value.

VI. IN MINERALOGY.

This laboratory occupies a convenient room in the basement, and is provided with tables and appliances to accommodate thirty students, with an excellent collection of minerals.

VII. IN BOTANY AND BIOLOGY.

The laboratory for plant morphology and histology adjoins the lecture room of the professor, and is well equipped for investigation along these lines. The experimental work in plant physiology and pathology is conducted by the students in the laboratory and adjacent greenhouse, both of which are being rapidly equipped and altered to accommodate this important line of work.

A start has been made toward the development of a Botanic Garden, but it is the intention to add as rapidly as possible representatives of the native flora of this State, and a good collection of the native medicinal plants. In this manner it is planned to secure from the garden its maximum assistance in the work of instruction. Special work in plant breeding and biometry will also be conducted in this garden.

VIII. IN ENGINEERING AND SURVEYING.

The necessary apparatus for field work, including transits, levels, plane table, models of bridges, etc., is provided for the use of the students, and the customary exercises in the field are given.

IX. IN DRAWING.

All students in the lower classes are required to take drawing, a study which tends to discipline the mind, as well as to train the eye and hand to accuracy of observation and execution. A large, well-lighted drawing room, which will accommodate fifty students, is provided, with tables, lock-boxes, etc.

X. IN MECHANICAL ENGINEERING.

A very important adjunct to the text book work in the mechanical engineering course is the laboratory or experimental work that the students do during the Senior year. Most of this work is now done in the lower story of the annex to the chemistry building, a room 30x60 feet in size. Steam is supplied by the boiler in the boiler house through a 3-inch steam main.

The equipment available for this instruction is as follows: A 35-horse power Cross compound engine, specially arranged for experimental work; a Wheeler surface condenser, and Worthington air pump and circulating pump; a 60-horse power Harrisburg engine; a 25-horse power Harris-Corliss engine; a 20-horse power Atlas engine; a 100-horse power Heine boiler; a Deane duplex steam pump; a 4½-horse power gasoline engine; an Ericsson hot air engine; a New York air pump; a Westinghouse air pump; an Ingersoll-Sargeant air compressor; an electric headlight engine, indicators, calorimeters, thermometers, a pyrometer, scales, steam gauges, and an apparatus for testing gauges.

For testing the strength of materials, there is a 35,000-pound Riehle Bros. testing machine, arranged for making transverse, compression, and tension tests, and micrometer apparatus for measuring the deformation of a specimen under stress. In addition to the above working apparatus, there are a number of sectional models of machines and appliances, and models of mechanical movements, all of which are extremely useful for the purposes of instruction.

XI. IN PHYSIOLOGY AND VETERINARY SCIENCE.

There has been constructed for the veterinary department a new and separate two-story building with nine rooms. It is provided with lecture room, office, working and operating rooms for clinical practice, and museum with skeletons of the domestic animals for instruction. Free clinics are given every Saturday for the benefit of the students in veterinary science. There is a separate dissecting room constructed, with cement floor and north roof light, especially for this department. This laboratory is used by the professor and students each afternoon for three months.

XII. IN PHARMACY.

The laboratory of this department occupies the second floor of the annex to the chemical laboratory, and is provided with a sufficient supply of drugs and apparatus necessary for instruction in pharmaceutical preparations.

The students work in the laboratory with the professor from five to eight hours, six days in the week.

The facilities are increased as means are available.

XIII. IN HORTICULTURE.

A plat of twenty acres is devoted to orchards, vegetables, fruits, flowers, and grapes. There is a well appointed greenhouse, fitted with modern apparatus for ventilation, heat, etc. Accurate experiments are conducted in this department in fruit-growing and the culture of the various vegetables adapted to this climate. Students are given in this laboratory practical instruction in grafting, budding, spraying, fertilization, gathering, and marketing crops.

MILITARY TACTICS.

Instruction in this department is given in conformity with the act of Congress. Students receive the benefit of regular military drill, and, in addition, the military system is used as a means of enforcing discipline and securing good order, promptness and regularity in the performance of academic duties.

This department is supplied with cadet rifles and accoutrements for the corps.

COLLEGE BUILDINGS.

The frontispiece is a representation of the main College building. It is 160x71 feet, and contains forty-five rooms. This building is not used for dormitories for students, but is appropriated to purposes of instruction and investigation.

It contains the lecture rooms and offices of the professors, laboratories, library, museum, armory, etc.

LANGDON HALL.

This is a two-story building, 90x50 feet. The second story is the audience hall, used for commencement and other public occasions.

The first story is appropriated to the laboratory of mechanic arts.

THE CHEMICAL LABORATORY.

As shown on the opposite page, this is a two-story structure, 40x60 feet, with a rear projection, 35x60 feet, of one-story and basement, and contains eight rooms. The exterior is of pressed brick, with cut stone trimmings and terra cotta ornamentation.

In the basement are ample accommodations for assaying and storage.

The main laboratory will accommodate sixty students, and contains improved working tables, with water, gas and every necessary appliance for chemical work.

The laboratory for advanced work in chemistry will accommodate thirty students and is equipped in the same manner. Adjoining this are two rooms which are used respectively as a balance room, and a room for work with spectroscope, polariscope, etc.

The second story contains a lecture room with seats and tablets for eighty students. Around the lecture room are cases containing crude and manufactured products, illustrating agricultural and mechanical chemistry, prominent subjects taught in the institution.

ANNEX TO CHEMICAL LABORATORY.

This is a three-story brick building, containing rooms for pharmacy, mechanical engineering and drawing.

The Chemical Laboratory for the Agricultural Experiment Station occupies a building 60x26 feet and is appropriated exclusively for chemical investigation and research, and not for instruction.

CHEMICAL LABORATORY

GRADUATES IN 1902.

CLASS OF 1902.

HONORS.

Members of the Senior Class who attained distinction with a grade of 95 per cent. are Graduates with Highest Honor. Those who attained a distinction with a grade of 90 per cent. and less than 95, are Graduates with Honor. Those who attained less than 90 per cent. and more than 60 per cent. are Graduates.

DEGREES.

BACHELOR OF SCIENCE.

GRADUATES.

Oliver Hannibal Alford	Marshall
William Marvin Askew	Georgia
Charles Homer Billingsley	Elmore
Edward Lambeth Carroll	Florida
Alpheus Mallette Davis	Florida
Jesse Duncan Elliott	Minnesota
James Douglas Farley	Lee
James Browder Garber	Hale
Arthur Rodfer Gray	Florida
Jeremiah Warren Gwin	Jefferson
William Houston Gwin	Jefferson
William Bulger Hamilton	Elmore
Clifton Duane Haynie	Lee
William Tillman Heard	Lee
Dallas Tabor Herndon	Henry
Franklin Jerome Houston	Jefferson
Collins James Johnson	Missouri
Morris Ketchum	New York
Earle Irwin McBryde	Wilcox
Thomas Michael McCarroll	Florida

Henry Bigham Park	Georgia
Douglass Welles Peabody	Illinois
George Clement Sequiera	Nicaragua
Brady Wilkinson Steele	Autauga
Enrico Alfonso Washington	Georgia
John Osceola Webb	Coosa

GRADUATES WITH HONOR.

Clyde Allen Collins	Hale
Gaston Joel Lipscomb	Marengo
Walker Dorr Willis	Florida

GRADUATES WITH HIGHEST HONOR.

Frederick Cornelius Atkinson	Dale
William Cruse Coles	Marshall
Marvin Ellis	Morgan
Mollie Hal Hollifield	Lee
Martin James Lide	Dallas
Richard Blount Shepard	Mobile
John Eayres Davis Yonge	Florida

POST-GRADUATE DEGREE.

MASTER OF SCIENCE.

Herschel Winston Bass	St. Clair
Thomas Bragg	Lee
James Olney Goggans	Tallapoosa
Paul Shields Haley	Walker
Arthur Flournoy Jackson	Georgia
John Talbert Letcher	Macon
Frederick Greenville Matthews	Lee
James Cochran Phelps	Lee
Matthew Scott Sloan	Mobile

PROFESSIONAL DEGREE.

MECHANICAL ENGINEER.

Michael Thomas Fullan	Lee

DISTINGUISHED STUDENTS.

DISTINCTIONS.

Students who receive a grade above 90 per cent. and less than 95 in three studies in the Freshman class, in four in the Sophomore class, in five in the Junior, and in six in the Senior, are distinguished for excellence in scholarship, and are awarded Certificates of Distinction. Those who receive a grade above 95 per cent. are awarded Certificates of Highest Distinction.

FRESHMAN CLASS.

DISTINCTION.

Hiram Victor Arnold	Florida
William Humphrey Foy	Barbour
Frank Paul Hurt	Jackson
Richard McCulloh	Louisiana
Louis Walton Montgomery	Lee
John Haygood Paterson	Montgomery
Wert Horace Peace	Jefferson
George Wallace Postell	Jefferson
Oliver Earle Young	Sumter

HIGHEST DISTINCTION.

Earl Eugene Jenks	Mobile
Walter Robert Samford	Lee

SOPHOMORE CLASS.

DISTINCTION.

Julian Sidney Chambers	Montgomery
James Henderson Childs	Georgia
Devotie Glover Ewing	Lowndes
Heyman Hagedorn	Georgia
Frank Ragan King	Jackson

John McDuffie	Monroe
Henry McDonnell	Madison
William Hugh McEniry	Jefferson
Arthur Wilhelm Merkel	Jefferson
Edward Owen Perry	Georgia
Zachary Pope Smith	Jefferson

HIGHEST DISTINCTION.

George Dunglingson	Talladega
John William McConnell	Jefferson
Frederick Shealy Middleton	Chambers
William Martin Shepard	Mobile
Berner Leigh Shi	Georgia

SPECIAL STUDENTS.

DISTINCTION.

Herbert McLeod	Crenshaw

JUNIOR CLASS.

DISTINCTION.

Thomas Arthur Caddell	Etowah
William Watson Davis	Mobile
Sallie Fleming Ordway	Tennessee

HIGHEST DISTINCTION.

Dudley Chipley	Florida
George Fouche Freeman	Cherokee
Walter Joseph Knight	Mobile

CATALOGUE OF STUDENTS.

FOR SESSION OF 1902-1903.

Graduate Students.

Oliver Hannibal Alford	Marshall
Frederick Cornelius Atkinson	Dale
Charles Homer Billingsley	Elmore
Marion Lara Brown	Georgia
Robert Wallace Clark	Lee
William Cruse Coles	Marshall
Clyde Allen Collins	Hale
Bolivar Lennox Davis	Bibb
Jesse Duncan Elliott	Minnesota
William Bulger Hamilton	Elmore
Dallas Tabor Herndon	Georgia
Kate Meade Lane	Lee
Enrico Alfonso Washington	Georgia
Reuben David Webb	Coosa
John Eayres Davis Yonge	Florida

SENIOR CLASS.

Albert Miner Avery	Florida
Marshall Leonard Bize	Georgia
James Victor Blackwell	Calhoun
Rush Pearson Burke	Montgomery
Thomas Arthur Caddell	Etowah
William Julius Chase	Georgia
Dudley Chipley	Florida
Charles Sanders Culver	Lee
Howard Ellis Davis	Mobile
William Watson Davis	Mobile
William Wert Dinsmore	Morgan
Thomas Joseph Dowdell	Montgomery
George Fouche Freeman	Cherokee

Ethel Julia Harwell	Lee
Ernest Cecil Haynie	Lee
Bell George Hazard	Calhoun
Henry Hiden	Jefferson
George Bloise Hill	Talladega
Wilburn Hill	Etowah
Alexander Grice Horn	Sumter
Roy Kauffman	Mobile
Howard Malcolm Kilpatrick	Georgia
Walter Joseph Knight	Mobile
Percy McLean Marshall	Georgia
Winfield Scott Martin	Jefferson
Robert Peyton Mims	Jefferson
John Harris Mitchell	Georgia
Thomas William Morgan	Jefferson
Sallie Fleming Ordway	Tennessee
James Porter Paterson	Montgomery
Wallace Powell Pruitt	Lowndes
Paul Rigney	Madison
William Watson Rutland	Chambers
Clifford Philip Rutledge	Lee
Hans Schmidt	Jefferson
John Rice Searcy	Conecuh
Julian Cassius Smith	Macon
William Bee Stokes	Marion
Edmund Rhett Taber	Montgomery
Edward Taylor	Marengo
Louis Earle Thornton	Florida
William Lawson Thornton	Talladega
Holmes Fielding Troutman	Georgia
Filo Harris Turner	Florida
Joseph Dorrah Walker	Jefferson
Henry Matthew Yonge	Florida

JUNIOR CLASS.

Chester Hall Gregg Alexander	Jefferson
William Leroy Alston	South Carolina
Bessie Sue Alvis	Lee
Samuel Ravard Benedict	Georgia
Frank Gordon Bell	Lee
William Arthur Branan	Georgia

Henson Estes Bussey	Jefferson
Robert Lee Butler	Madison
Andrew Duke Cameron	Macon
Emmett Tulane Camp	Etowah
Julian Sidney Chambers	Montgomery
James Henderson Childs	Georgia
Felix Franz Otto Doering	Calhoun
Louis Warren Duffee	Mobile
George Dunglinson	Talladega
Verlie Roy Emrick	Jefferson
Devotie Glover Ewing	Lowndes
Edwin Washington Ewing	Lowndes
Clarence Evelyn Field	Jefferson
George Bridges Foss	Mississippi
Daisy Douglas Foster	Lee
Walter Summerville Going	Jefferson
Heyman Hagedorn	Chambers
Leonard Park Hall	Jefferson
Walter Leonidas Harwell	Lee
Guy David Hawkins	Jefferson
Thomas Vandiver Herndon	Henry
John David Hudson	Georgia
Walter Wier Johnston	Calhoun
Allen Green Jones	Dallas
Samuel Thomas Jones	Sumter
Chauncey Smith Joseph	Montgomery
Isham Kimbell	Clarke
Alexander King	Lee
Edward Philip Lacey	Jefferson
Harry Thomas Landram	Lee
Tracy Lay	Etowah
William Richard Lee	Jackson
Henry Richard Luscher	Mobile
Thomas Hatcher Matson	Talladega
Isaac Sadler McAdory	Jefferson
John William McConnell	Jefferson
John McDuffie	Monroe
Henry McDonnell	Madison
Thomas Pettus McElderry	Talladega
William Hugh McEniry	Jefferson
Arthur Wilhelm Merkel	Jefferson
Frederick Shealy Middleton	Chambers

William Pittman Moon	Coosa
†Lee Penn Montgomery	Lee
James Leonidas Murphy	Conecuh
Albert Henry Newman	Talladega
Fenton Forrest Newman	Talladega
Fulton Pace	Tallapoosa
Edward Owen Perry	Georgia
Thomas Shepard Roche	Mobile
Charles McPherson Rogers	Sumter
Cicero Rudd	Blount
William Martin Shepard	Mobile
Berner Leigh Shi	Georgia
†Washington Irving Shi	Georgia
John Floyd Smith	Calhoun
Zachary Pope Smith	Jefferson
John Randolph St. John	Mobile
Joseph Churchill Strong	Mobile
Albert Lee Thomas	Lee
Alma Cole Tompkins	Lee
William Micou Turnley	Montgomery
Willis Henry Grady Venable	Jefferson
Charles Clements Voyle	Florida
Thornton Albert Ward	Lee
William Francis Ward	Lee
†Francis Hobbs Watson	Dallas
William Clifford Wear	Lee
Charles Sherling Williams	Jefferson
Robert Eubank Williams	Jefferson
†John Mayer Wilson	Clarke
William Mason Wilson	Etowah

SOPHOMORE CLASS.

Robert Evans Allison	Sumter
Eric Alsobrook	Lee
Earle Emmett Baird	Georgia
†Franklin King Beck	Wilcox
Frederick Rudolph Bell	Lee
Harvey Emory Bennett	Lee
James Seaborn Boyd	Montgomery

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†Not in full standing.

Robert Platt Boyd	Montgomery
Thomas Cobb Bradford	Lee
James Austin Buchan	Pike
Sylvanus Leonard Burney	Chambers
Edward Harman Cabaniss	Jefferson
Edwin Valdivia Caldwell	Shelby
Frank Furniss Cawthon	Dallas
Lemuel Jackson Cobb	Cherokee
James Henry Coleman	Georgia
Robert Cowan	Lee
Robert Rankin Cummins	Dallas
John Vernon Denson	Chambers
Ralph Dudley	Georgia
†James Chester Elmer	Mississippi
Edgar Ervin Esslinger	Madison
William Humphrey Foy	Barbour
Miller William Francis	Coosa
Benjamin Shields Gilmer	Choctaw
Shaffer Hood	Tallapoosa
James Elliott Holt	Russell
Frank Parkinson Howard	Macon
Frank Paul Hurt	Jackson
Charles Edwin Jackson	Madison
Fletcher Lindsay Jackson	Macon
Earle Eugene Jenks	Mobile
Earle Kauffman	Mobile
Albert Roy Killebrew	Dale
Bernard Joseph Lane	Talladega
Charles Whittaker May	Russell
George McCord	Jefferson
Richard McCall McCulloh	Louisiana
John Howard McEniry	Jefferson
Claude Cooper McLean	Covington
John Turner Milner	Jefferson
Lawrence Whipple Milner	Jefferson
Louis Walton Montgomery	Lee
Clarence LaFayette Mullin	Lee
Cicero Louis Nelson	Baldwin
John Haygood Paterson	Montgomery
Wert Horaice Peace	Jefferson
Monroe Thomas Penn	Lee

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†Not in full standing.

Henry Clarence Perkins	Barbour
Burke Benjamin Phillips	St. Clair
John Ross Phillips	St. Clair
George Wallace Postell	Jefferson
Marshall Gowan Price	Marengo
Francis Esten Purifoy	Wilcox
Charles Holmes Reed	Jefferson
Forney Renfro	Lee
Randolph Smith Reynolds	Calhoun
Charles Claude Rigney	Madison
Walter Robert Samford	Lee
James Harrison Schuessler	Chambers
Linwood Seale	Sumter
James Rhett Smith	Butler
John Edward Thigpen	Lowndes
Henry Howard Thornton	Talladega
Charles Spurgeon Waldrop	Jefferson
Elbert Fain Webb	Cherokee
Samuel Borders Wilson	Talladega
Oliver Earle Young	Sumter

FRESHMAN CLASS.

William Wirt Allen	Calhoun
Morris Simpson Allen	Calhoun
Otis DeWitt Alsobrook	Lee
Chester Garfield Arthur	Jefferson
Philip Holcomb Avary	Lee
James Lawrence Bailey	Marengo
James Robertson Black	Lee
William Graham Boyd	Tennessee
Edwin Matherson Bragg	Lee
John Cleveland Bryan	Georgia
†Emmett West Buckley	Mobile
Charles Taylor Butler	Madison
Jesse Oliver Cosper	Colbert
Benjamin Harris Cross	Lee
James Lide Cross	Lee
John Leland Cross	Shelby
William Harvey Cross	Shelby
Julian Jarnigan Culver	Lee

†Lewis Allen Davis	Florida
Ernest Percival Davis	Florida
Howard Hall Davis	Florida
Charles Abiatha Dean	Lee
Thomas Lewis Dickson	Lee
Charles Garrison Dillard	Madison
Richard Hodges Drake	Lee
George Traylor Edwards	Dallas
Bertram Ezekiel	Butler
George Robert Farnham	Conecuh
James Clark Francis	Coosa
George Hardaway Frazer	Lee
†Raymond David Gillespie	Jefferson
Chester King Gould	Mobile
Lynwood William Gray	Calhoun
Lyman Compton Hall	Talladega
Irving Skinner Hannon	Mobile
John Wesley Harris	Lee
Preston Brooks Harrell	Perry
Sidney Herzfeld	Tallapoosa
†Jesse Gary Humphries	Talladega
Washington Cleveland Jones	Pike
Frank Dansby King	Marengo
William Leonard Lett	Lee
Charles Felton Little	Lee
Sidney Long	Butler
Wade Augustus Martin	Jefferson
William Gaston Martin	Lee
Hugh Frank McElderry	Talladega
Claude Stewart McNeely	Tallapoosa
Benjamin McMillan	North Carolina
Hinton Alfred Middleton	Chambers
William LeRoy Mitchell	Lee
Frederick Henry Mohns	Jefferson
Vernon Moore	Hale
Edmund Pendleton Morrissette	Montgomery
Edward Preston Murphy	Butler
†John Robbins Nettles	Monroe
William Lee Newberry	Jefferson
James Hudson Otey	Perry

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†Not in full standing.

Frederick Parker	Montgomery
Thomas Henry Pattison	Lee
Benjamin Peeples	Tennessee
Henry Petersen	Jefferson
Samuel Pouncey	Geneva
William Britain Powledge	Lee
Robert Morris Prather	Autauga
Daniel Mitchell Rencher	Perry
Noah Parker Renfro	Lee
William Roberts	Jefferson
Benjamin Pinkney Robertson	Jefferson
Frank Bellamy Rutledge	Lee
George Levi Sherrill	Limestone
Edmund Cooper Smith	Georgia
Royden Keith Stanley	Chambers
Frederick Weeden Teague	Montgomery
Francis Eugene Tompkins	Lee
Roy Edwin Torbert	Lee
Robert Wilson Trimble	Arkansas
Shem Arthur Tyson	Montgomery
Carl Venable	Jefferson
James Pennington Vickers	Clarke
Fletcher Gordon Webb	Lee
James Cox Webb	Marengo
Adolphus Weil	Lee
Clarence Paul Welles	South Carolina
Willis Carter West	Perry
Eli Ballard Whiddon	Georgia
Hubert Whitaker	Texas
Dinnis Timothy Williamson	Covington
Thomas Pelham Winston	Lee
John Lee Woolf	Calhoun
Claude Wright	Pike
Malcolm Roland Yonge	Florida

SPECIAL AND IRREGULAR STUDENTS.

Lucious Geneve Adams	Mech. (1st year)	Talladega
Henry Alexander Allison	E. M. E.	Sumter
Hiram Victor Arnold	E. M. E.	Florida
Samuel Ashton		Jefferson

Albert Martin Ayres	Mech. (1st year)	Marshall
Robert Trammell Bagby	C. E.	Lee
Martin VanBuren Beason	Mech. (2d year)	Jefferson
George Cleveland Blanks	Ph. (1st year)	Shelby
Marion Fitzpatrick Boykin	Agr.	Lee
Jefferson Edward Brown	E. M. E.	Jefferson
Samuel Davis Brown		Georgia
Ryland Crews Bryant	C. E.	Jefferson
Turner Christian Cameron	Ph. (1st year)	Greene
Bailus Pinkney Cooper	Mech. (2d year)	Washington
Clive Daly	Vet. Sci. (1st yr.)	Jefferson
James Louis Dean	Ph. (1st year)	Montgomery
Walker Hamilton Durham	Ph. (1st year)	Georgia
Paul Metzger Eichelberger	Agr.	Calhoun
Robert Lee Ellis	Mech. (2d year)	Autauga
Marcus Luculus Foster		Etowah
Minos Edward Gibbs	Mech. (1st year)	Jefferson
Charles Williams Gonce	Mech. (2d year)	Tennessee
Frank Lovell Gonce	Chem. (1st year)	Tennessee
Howard Wilson Going	Mech. (1st year)	Jefferson
Leonard Graham Gresham	Mech. (2d year)	Autauga
John Joseph Griffin	Ph. (1st year)	Dallas
Malcolm Hanna	Ph. (1st year)	Florida
Charles Edward Hare	Ph. (1st year)	Macon
May Persis Harvey		Lee
Ella Theolian Hildreth		Morgan
Wallace Duskin Hogue	Agr. (1st year)	Hale
George Wallace Jackson	Ph. (1st year)	Lee
Francis Tarleton James		Montgomery
Hazel Darling Johnston	Ph. (1st year)	Florida
Clyde White Jones	Ph. (1st year)	Jefferson
Walter Maurice Jones-Williams	E. M. E.	Lee
Edward Kelly	Vet. Sci.	Montgomery
Robert Hardaway Lane	Ph. (1st year)	Shelby
William Jackson Marsh	Ph. (2d year)	Lee
Robert Kinnard Martin	Ph. (1st year)	Jefferson
Ralph MacFarland Matthews	Mech. (2d year)	Georgia
Robert Emmett McCrary	Mech. (1st year)	Lee
James Wilber Medlock	Mech. (1st year)	Monroe

John Claudius Morris	Ph. (1st year)	Blount
Jabez Curry Nelson	C. E.	Jefferson
Frank Arthur Ortman	Ph. (1st year)	Mobile
Thomas Roswell Parish	Ph. (1st year)	Barbour
John Henry Peebles		Limestone
William Perdue	Ph. (1st year)	Lowndes
Laurens Walter Pierce	E. M. E.	Elmore
William Bradford Ragsdale	Vet. Sci.	Lauderdale
George Daniel Randle	Ph. (2d year)	Jefferson
James Reid	Ph. (1st year)	Barbour
Cobb Reinhardt	Ph. (1st year)	Calhoun
John Patrick Rembert	E. M. E.	Mississippi
Roy Gustavus Rhodes	E. M. E.	Marengo
William Harvey Robertson	Ph. (2d year)	Jackson
Rufus Peugh Shuptrine	Ph. (2d year)	Dallas
Elisha Wilson Sellers	Ph. (1st year)	Pike
Thomas Edward Smith	Agr.	Lauderdale
Quinton Sorrell	Ph. (1st year)	Talladega
William David Staples	Vet. Sci.	Coosa
Henry Harvey Thomas	Ph. (1st year)	Tallapoosa
Joseph Scott Thomason	Ph. (1st year)	Calhoun
Luther Tisdale	Ph. (1st year)	Conecuh
James Cooper Usrey	Ph. (1st year)	Jefferson
Victor Vance	Mech. (1st year)	Tuscaloosa
Joaquin Nilo Vila	Mech. (1st year)	Cuba
Enrique Vila	Mech. (1st year)	Cuba
Walter Walters	Ph. (1st year)	Pike
James Samuel Webb	Mech.	Lee
Robin Monroe Webb	Mech. (1st year)	Jefferson
Carl Wharton	Ph. (1st year)	Cherokee
Ralph Gordon Williams	Mech. (2d year)	Jefferson
William Martin Williams	Mech. (1st year)	Escambia
Luther Elgin Wilson		Jefferson
Mary Kate Wills		Lee
Clement Nixon Zuber	Ph. (1st year)	Jefferson

SUB-FRESHMAN.

Leslie Sheldon Abercrombie	Macon
John Davidson Alexander	Marengo
John Myrick Ashley	Montgomery
Meams Blanton Bagby	Lee

Porter Buchanan	Montgomery
Lucas Cambo	Cuba
Dupree Clay Cameron	Greene
Enoch Cobb Cammack	Clarke
Joseph Normard Cardon	Cherokee
William Allen Collier	Chilton
Talbert Fannin Cheek	Jefferson
Ruben Braxton Cotney	Georgia
Byron Calhoun Crawford	Georgia
George Edgar Cross	Shelby
Henry Allen Driver	Randolph
John Hilton Farnham	Conecuh
Rudolph Gallasch	Mobile
Rufus Hannon Hagood	Jefferson
Robert Alexander Hardie	Perry
John Henry Harper	Perry
Carlos Rafael Houghton	Cuba
Lovie Boyd Jeter	Geneva
LaFayette Franklin Jones	Pike
Carlos Justiz-Curbelo	Cuba
Miguel Justiz-Curbelo	Cuba
Herschel Victor Killebrew	Georgia
David Landram	Lee
Horace Leyden	Calhoun
James Riley Lindsey	Escambia
Frank Abner McGee	Tuscaloosa
Wallace Frederick McClary	Jefferson
Albert McPherson	Lee
Alfred Halley Mitchell	Lee
John Marius Niolon	Mobile
Clarence Samford Petrey	Crenshaw
Alexander Ploeger	Jefferson
Oscar de Poo	Cuba
Grover Cleveland Prowell	Marengo
Cecilio Rodriguez	Cuba
William Simpson Sampson	Jefferson
Angel Sanchez	Nicaragua
Gross Scruggs	Clarke
James Marsh Seignious	South Carolina
Herbert West Smith	Jefferson
Samuel Lawrence Smith	Jefferson
William Charles Streit	Jefferson

Paul Lee Taylor	Jefferson
Charles Winston Thompson	Macon
James Earnest Threadgill	Wilcox
Samuel Augustus Threadgill	Wilcox
Charlton Harris Torbett	Georgia
Arthur Edmund Voyle	Florida
Samuel Wainwright	Georgia
Daniel Edward Weatherly	Wilcox
James Henry Wilks	Jefferson
Robert Sims Williams	Talladega
Homer Waller Wright	Lee

SUMMARY.

Graduate Students	15
Senior Class	46
Junior Class	78
Sophomore Class	68
Freshman Class	92
Special and Irregular Students	78
Total in College Classes	377
Sub-Freshman Class	57
Total	434

NUMBER OF STUDENTS IN EACH SUBJECT OF STUDY.

English	351	Geology	24
History	233	Civil Engineering	41
French	29	Electrical Engineering	59
German	37	Mechanical Engineer'g	55
Latin	103	Biology	16
Mental Science	12	Drawing	317
Political Economy	40	Mechanic Arts	272
Mathematics	351	Military Department	391
Chemistry	170	Mineralogy	24
Chemical Laboratory	155	Physical Laboratory	46
Agriculture	112	Physiology	91
Physics	242	Veterinary Science	20
Botany	101	Pharmacy	49
Horticulture	7	Bacteriology	13

RESIDENCE BY STATES.

Alabama	365
Georgia	30
Florida	14
Cuba	8
Mississippi	3
Tennessee	5
Louisiana	1
Texas	1
Arkansas	1
North Carolina	1
Nicaragua	1
Minnesota	1
South Carolina	3
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MILITARY ORGANIZATION.

1902-1903.

President,
CHAS. C. THACH.

Commandant,
COL. B. S. PATRICK.

Surgeon,
J. H. DRAKE.

Battalion Staff,

Cadet Captain W. J. Knight, Assistant to Commandant.
Cadet Captain A. M. Avery, Principal Musician.
Cadet First Lieutenant W. W. Dinsmore, Adjutant.
Cadet First Lieutenant H. F. Troutman, Assistant Adjutant.
Cadet First Lieutenant P. Rigney, Quartermaster.
Cadet Sergeant J. McDuffie, Sergeant Major.
Cadet Sergeant J. S. Chambers, Quartermaster Sergeant.

Cadet Captains:

1. H. E. Davis.
2. H. M. Yonge.
3. T. J. Dowdell.
4. W. W. Rutland.

Cadet First Lieutenants:

1. J. H. Mitchell.
2. E. Taylor.
3. J. D. Walker.
4. G. B. Hill.
5. E. C. Haynie.
6. B. G. Hazard.

Cadet First Sergeants:

1. B. L. Shi.
2. J. H. Childs.
3. F. S. Middleton.
4. W. M. Wilson.

Cadet Sergeants:

1. T. Lay.
2. W. S. Going.
3. T. P. McElderry.
4. H. R. Luscher.
5. A. G. Jones (color sergeant).
6. W. L. Harwell.
7. G. Dunglinson.
8. I. Kimbell.
9. Z. P. Smith.
10. T. H. Matson.
11. E. O. Perry.
12. D. G. Ewing.
13. W. H. McEniry.
14. L. P. Hall.
15. J. D. Hudson.
16. T. V. Herndon.
17. C. H. G. Alexander.
18. H. McDonnell.

Cadet Corporals:

1. F. P. Hurt.
2. O. E. Young.
3. W. H. Peace.
4. W. H. Foy.
5. R. McCulloh.
6. J. H. Paterson.
7. H. H. Thornton.
8. J. T. Milner.
9. R. P. Boyd.
10. J. R. Phillips.
11. J. S. Boyd.
12. M. W. Francis.
13. R. Dudley.
14. E. H. Cabaniss.
15. E. Alsobrook.
16. L. Seale.
17. E. E. Esslinger.
18. L. J. Cobb.

The A. P. I. Cadet Band:

M. THOS. FULLAN, Bandmaster.
A. M. AVERY, Principal Musician.
Drum Major, J. D. HUDSON.

L. G. Adams.
H. V. Arnold.
F. G. Bell.
L. J. Cobb.
C. A. Dean.
R. H. Drake.
V. R. Emrick.
G. H. Frazer.
W. L. Harwell.
G. D. Hawkins.
H. Hagedorn.
G. McCord.
C. S. McNeely.
W. L. Newberry.
F. Renfro.
W. R. Samford.
J. R. St. John.
A. L. Thomas.
E. R. Taber.
J. S. Thomason.
R. E. Torbert.
C. P. Welles.
J. L. Woolf.

Cadets of the graduating class who were reported to the Adjutant General, U. S. Army, for publication in the "Official Army Register" as having ranked highest in the Military Department:

1889.

A. St. C. Dunstan.
B. H. Crenshaw.
A. J. Burr.

1890.

F. D. Milstead.
J. W. Bivins.
G. W. Emory.

1891.

L. E. Baker.
C. C. Johnson.
F. J. Bivins.

1892.

H. F. Dobbin.
A. L. Jones.
C. L. Brown.

1893.

Joel Dumas.
C. H. Smith.
J. F. Webb.

1894.

C. S. Andrews.
P. P. McKeown.
R. T. Dorsey.

1895.

S. L. Coleman.
H. H. Smith.
L. B. Gammon.

1896.

A. L. Alexander.
W. L. Fleming.
W. M. Williams.

1897.

P. G. Clark.
G. M. Holley.
G. N. Mitcham.

1898.

A. H. Clark.
A. McB. Ransom
John Haralson.

1899.

I. F. McDonnell.
A. H. Feagin.
T. W. Wert.

1900.

E. M. Mason.
H. P. Powell.
C. W. Nixon.

1901.

A. F. Jackson.
J. D. Foy.
P. S. Haley.

1902.

W. D. Willis.
J. E. D. Yonge.
J. B. Garber.

REQUIREMENTS FOR ADMISSION.

All applicants for admission should present testimonials of good moral character, and those who come from other colleges must present certificates of honorable discharge.

To enter the Freshman class the applicant must be not less than fifteen years of age, and should be qualified to pass a satisfactory examination on the following subjects:

1. Geography and History of the United States.

2. English—(a) English grammar as contained in any standard text. (b) An examination upon sentences containing incorrect English. (c) A composition giving evidence of satisfactory proficiency in spelling, punctuation, grammar, and division into paragraphs.

(a) *Reading.* The composition of 1903 will be upon subjects drawn from one or more of the following works in English Literature: (1) Hughes's *Tom Brown at Rugby;* (2) Southey's *Life of Nelson;* (3) Shakespeare's *Julius Caesar;* (4) Longfellow's *Evangeline;* (5) Scott's *Ivanhoe;* (6) Shakespeare's *Merchant of Venice;* (7) Irving's *Sketch Book;* (8) Macaulay's *Essay on Milton;* (9) Scott's *Marmion;* (10) Dickens's *David Copperfield.*

The candidate will be required to present evidence of a general knowledge of the subject matter, and to answer simple questions on the lives of the authors. This part of the examination is intended only to test a general knowledge of the substance of the books.

(b) *Study and Practice.* This part of the examination presupposes the thorough study of the style of the work, and will be upon *Julius Caesar* and the *Essay on Milton.*

Preparation and examination on these works will be necessary before the student is classed as regular in any course.

3. Mathematics—(a) Arithmetic, including fundamental operations; common and decimal fractions; denominate numbers; the metric system; percentage, including interest and discount; proportion. (b) Algebra to quadratic equations; especial preparation is urged in *fundamental operations, factoring, multiples, divisors* and *fractions;* two books of geometry.

4. Those applicants who desire to continue the study of Latin should be qualified to pass a satisfactory examination in Latin grammar and the first two books of Caesar, in addition to the above subjects.

In pronouncing Latin it is recommended that *ā* be pronounced as in *father*, *ă* as the *a* in *Cuba; ē* as in *prey; ĕ* as in *men; ī* as in *machine*, *i* as in *cigar; ō* as in *old; ŏ* as in *obey; ū* as in *rule; ŭ* as in *full; j* as *y* in *yard; c* always as *k* in *king; g* always as *g* in *get.*

For admission to the higher classes, students should be prepared to stand satisfactory examination in all of the studies of the lower classes, as shown in the course of study. Students applying for admission to the sophomore class will be examined in mathematics through quadratic equations and logarithms in algebra, and on seven books in geometry. Where opportunity has not been offered to pursue special studies required at this College, the system of equivalents will be adopted, and studies which denote an equivalent amount of discipline and training will be accepted as satisfactory. But if not prepared to pass an examination in history and chemistry at the time of application, the applicant will be required before graduation to pass a satisfactory examination on these subjects.

It is absolutely essential that students who hope to succeed should be well grounded in arithmetic, algebra, and geometry.

A working knowledge of the metric system should also be obtained.

ADMISSION ON CERTIFICATE.

Applicants will be admitted without examination on presenting a certificate from any of the CERTIFICATE SCHOOLS named herein.

The following educational institutions having made application to be correlated to this College, and having presented an approved course of study, are hereby declared to be CERTIFICATE SCHOOLS, and are granted the privilege set forth in the following:

"Students from certificate schools will be admitted to the fresh-
" man class *without examination* upon the certificate of the presi-
" dent or principal showing definitely that such students have
" completed satisfactorily all the studies required for admission, as
" stated in the catalogue and are otherwise admissible."

The privilege of admitting students to the Sophomore class on certificate will be granted only to those approved schools that have had a continuous existence for five years or more and have previously had pupils admitted to that class without conditions.

The following form of certificate will be used:

I hereby certify that A........... B..........has attended the (*name the school or academy*) for..........years and has studied the following subjects:

in History ....(*name the books*)
in English ....(*name the books*)
in Algebra.............................(*state amount accomplished*)
in Geometry ....(*state amount accomplished*)
in Latin ....(*state books read*)
and having passed a satisfactory examination on these subjects as required in the Catalogue for admission to the..............class, I recommend him for the same.

Admission by certificate is regarded as provisional.

That is, though admitted to the class for which the certificate calls the applicant may be required to take special examination in any subject in which his preparation proves unsatisfactory or, after a fair trial, he may be dropped to a lower class, if he fails to maintain standing in the class to which he may be admitted.

CERTIFICATE SCHOOLS.

University Military School, Mobile	J. D. Wright.
Verner Military Institute, Tuscaloosa	W. H. Verner.
University School, Montgomery	J. M. Starke.
Mt. Willing High School, Mt. Willing	J. Knight.
State Normal School, Jacksonville	C. W. Daugette.
Male Academy, Huntsville	F. Puryear.
Furman Academy, Livingston	L. A. Cockrell.
High School, Opelika	G. W. Brock.
Eighth District Agricultural School, Athens	M. K. Clements.
Sixth District Agricultural School, Hamilton	E. F. Cauthen.
Eutaw Male Academy, Eutaw	H. C. Horton.
Anniston Training School for Boys	W. A. White.
Taylor's School, Birmingham	W. P. Taylor.
University High School, Birmingham	I. J. White, M. B. Dickinson.
Fourth District Agricultural School, Sylacauga	T. A. Anderson.
Gaylesville High School	John R. Ray.

Carrollton Academy	L. V. Rosser.
Ninth District Agricultural School, Blountsville	J. A. B. Lovett.
Gadsden High School	W. E. Striplin.
Boyd High School, Brundidge	B. H. Boyd.
Carrolton High School (Ga.)	J. S. Caldwell.
Eufaula High School	F. L. McCoy.
Union Springs High School	J. M. Sanders.
Montgomery High School	C. L. Floyd.
Sycamore Academy	C. C. Slaton.
Southern Agricultural School, Abbeville	J. V. Brown.
Barnes's School, Montgomery	E. R. Barnes.
Jackson Agricultural School	Douglas Allen.
Spring Lake School	W. C. Griggs.
Pensacola Classical School	H. C. Armstrong.
Grady Institute, Ft. Valley, Ga	W. J. Scroggs.

ADMISSION OF YOUNG WOMEN.

The privilege of becoming students in this college is granted by the Trustees to young women of mature mind and character, on the following conditions:

The applicant must be seventeen years of age, and if a candidate for a degree, be able to pass a satisfactory examination in each of the four subjects named below.

If the applicant is a candidate for admission as a special or irregular student, she must be able to pass a satisfactory examination in two of the subjects named, and may be admitted at an age less than seventeen, with a resident of Auburn acting as guardian, if application is approved by the Faculty.

(a) In English—Proficiency in spelling and punctuation; Grammar (Lockwood-Whitney); Rhetoric (Lockwood's Lessons and Carpenter's Rhetoric); Scudder's Masterpieces of American Literature; Syle's From Milton to Tennyson.

For requirements in reading in literature see page 37.

(b) In History—Macy's Our Government; Chambers's History of the United States; Myers's General History.

(c) In Mathematics—Arithmetic; Algebra, including quadratic equations, logarithms and series; Plane and Solid Geometry; Plane and Spherical Trigonometry, as in Wentworth.

(c) In Latin—Grammar, including the forms and syntax; Jones's Latin Prose Composition; translations of selections from Cæsar.

Nepos, Virgil, Cicero's Orations, Cicero's Letters, or the equivalent.

The equivalents of these subjects, as in above text-books, may be substituted.

When admitted, upon complying with the conditions above stated, they may enter upon the study of any subject taught in the College and join any class, for which, upon examination, they may be found qualified. The only condition imposed will be that they engage in earnest study, and attend the exercises regularly. They will board in the town with private families and attend college only at the hours of their exercises.

ENTRANCE EXAMINATIONS.

Entrance examinations will be held on Wednesday, the 9th of September, the day on which the session opens. Candidates will also be examined during the session, when application is made for admission.

Applicants who are not prepared to stand the entrance examinations for full admission to the freshman class are admitted to the sub-college department, provided they are fifteen years of age, and are found after examination qualified to profit by the instruction given. Those who, after admission, are inattentive to their studies, and neglectful of their duties will be required to withdraw, but those who are studious and make sufficient progress will be advanced to full admission to the freshman class when they are qualified to pass satisfactorily the required examinations.

Students, upon their arrival at Auburn, will report immediately to the President. No student will be admitted to a recitation in any class previous to matriculation.

NUMBER OF EXERCISES REQUIRED.

All students are required to have not less than fifteen recitations per week, or their equivalent, in addition to the exercises in laboratory work, drawing and military drill. These additional exercises occupy not less than twelve hours per week, and in all give twenty-seven to thirty hours per week required in college exercises.

SPECIAL AND IRREGULAR STUDENTS.

The privilege of electing studies in the lower classes is not granted to young students nor to their parents.

The Faculty will assign a student, on admission, to that class of a prescribed course for which he is qualified, and for special reasons, approved by the Faculty, he may be permitted to become irregular.

Students qualified to prosecute the studies of the junior class, and those over twenty-one years of age that are not candidates for a degree, are permitted to take, with the advice of the Faculty, the subjects of study for which they may on examination prove themselves qualified.

For an applicant to enter upon the study of Electrical and Mechanical Engineering as a special or irregular student, he must have studied algebra through quadratics and logarithms, plane geometry, and plane trigonometry.

The professor in charge of a department will decide by examination whether a special student is prepared for admission to his class.

A student who does not take all the studies in a class of one of the degree courses, as prescribed in the catalogue, and is permitted to take an irregular course, will be assigned to a member of the Faculty, who will act as his special adviser, and when his course of study has been approved by the Faculty, no other change will be permitted without the endorsement of his adviser.

Regular students who fail to pass satisfactory final examinations in any one study become irregular students. They will be classed as regular students pursuing a course for a degree, whenever they can pass the examinations in those subjects in which they were found deficient.

Students, candidates for a degree, who are not in full standing in all the prescribed studies of a class, rank in the military department with that class in which they have the greatest number of studies, and their names are so placed in the catalogue.

ADMISSION TO HIGHER CLASSES.

At the beginning of each term a student in the sub-freshman class may, on application approved by the Faculty, be examined for admission to the freshman class in history, English, mathematics, and be admitted to the freshman class in that subject only.

Students who have completed satisfactorily all the studies of the sophomore class, as prescribed in the catalogue, in any one of the regular degree courses, can enter, without condition, the junior class in any course, except in the general course, or the course in pharmacy, in which Latin is required.

Students who are admitted to the junior class from other institutions, on examinations in English, Latin, and mathematics, and who have not completed all the studies of the sophomore class, in order to graduate, will be required to complete the course in chemistry and history as taught in the sophomore class. In addition to these subjects, students who thus enter the junior class of the course in chemistry and agriculture either from this or other institutions will be required to complete the course in botany and physiology in the sophomore class.

COURSES OF INSTRUCTION.

The courses of study include the Physical, Chemical, and Natural Sciences, with their applications; Agriculture; Biology; Mechanics, Astronomy, Mathematics; Drawing; Civil, Electrical, and Mechanical Engineering; Physiology and Veterinary Science, Pharmacy; English, French, German and Latin Languages; History, Political Economy; Mental and Moral Sciences.

The studies are arranged in regular courses so as to offer liberal and practical education as a preparation for the active pursuits of life.

There are six degree courses for undergraduates, each leading to the degree of Bachelor of Science (B. Sc.) and requiring four years for its completion.

I. COURSE IN CHEMISTRY AND AGRICULTURE.

II. COURSE IN CIVIL ENGINEERING.

III. COURSE IN ELECTRICAL AND MECHANICAL ENGINEERING.

IV. GENERAL COURSE.

V. COURSE IN PHARMACY.

VI. COURSE IN CHEMISTRY AND METALLURGY.

There are also three partial courses, each requiring two years for its completion:

VII. TWO-YEAR COURSE IN AGRICULTURE.

VIII. TWO-YEAR COURSE IN MECHANIC ARTS.

IX. TWO-YEAR COURSE IN PHARMACY.

Course I. includes theoretical and practical instruction in those branches that relate to chemistry and agriculture, and is especially adapted to those who propose to devote themselves to agriculture or chemical pursuits.

Course II. includes the principles and applications of the sciences that directly relate to civil engineering, and is adapted to those who expect to enter that profession.

Course III. includes, besides the general principles and applications of the sciences, a special course in the applications of electricity and mechanics, and is arranged for the profession of electrical and mechanical engineering.

Course IV. has been arranged to give a general and less technical education in subjects of science and language to meet the wants of those students who have selected no definite vocation in life, as well as of those who propose ultimately to engage in teaching or in some commercial or professional business.

Course V. includes, besides the general education of course IV. in the lower classes, a special course in pharmacy and chemistry, and is adapted to those who expect to become pharmacists, manufacturing chemists, or to enter upon the study of medicine.

Course VI. provides for thorough theoretical and practical instruction in pure and technical chemistry and metallurgy, and in the sceintific branches relating thereto. Students taking this course also pursue the study of German and French during the Junior and Senior years, and are thus prepared to utilize for reference the scientific journals and works published in those languages.

Courses VII. VIII. IX. have been arranged for the benefit of those students who, for reasons satisfactory to themselves, are unable to continue at college four years and to take one of the regular degree courses.

A student who completes satisfactorily all the work of the senior class in a department, including the laboratory work, will be awarded a certificate of proficiency in said subject.

Students who complete either of the two-year courses will, on passing a satisfactory examination, receive certificates indicating their attainments.

No degree or certificate of proficiency will be given in any course unless the applicant has passed a satisfactory examination in elementary English. Every candidate for a degree will be required to stand this special examination during the second term of the Senior year.

Declamations and themes or orations are required of all regular students pursuing courses leading to a degree.

POST-GRADUATE COURSES.

A more extended post-graduate course of study may be taken by a graduate of this College or of any other institution of equal grade. The completion of a course which leads to a post-graduate degree of Master of Science requires one year's residence at the College, spent in the satisfactory prosecution of a course of study, with such laboratory work as may be approved by the Faculty.

The candidate must also present to the Faculty a satisfactory thesis showing independent investigation upon some subject pertaining to his course, and must pass an examination, at the close of each term, on the course of study prescribed in which he must attain a grade of 75 per cent. The examination is written, and also oral in the presence of the Faculty.

The subject of the thesis must be submitted to the Faculty for approval prior to January 1st, and the thesis given to the professor by May 1st.

Applicants for a post-graduate degree and special students in post-senior studies are subject to the general regulations as other students, and pay the same fees, but are exempt from all military duty.

The following courses are prescribed for the degree named:

1. *Master of Science.*—Studies in three departments, in two of which the candidate must have previously completed the full course of the senior class; or in special cases, with the approval of the Faculty, a student may devote his full time to work in two departments, in each of which he has completed the full senior course.
2. *Master of Science in Pharmacy.*—Pharmacy and Chemistry.
3. *Master of Science in Civil Engineering.*—Civil Engineering, Mathematics, Analytical Mechanics.

4. *Master of Science in Electrical and Mechanical Engineering.*—Electrical Engineering, Mechanical Engineering.

5. *Master of Science in Mining Engineering.*—Students who have received the degree of B. Sc. in engineering, civil, or electrical and mechanical, or in the course of chemistry and metallurgy, or who have prosecuted an equivalent course of study, can enter upon a special course of mining engineering, which includes the following subjects of study:

Industrial Chemistry, Analytic Chemistry, Assaying, Reduction of Ores, Mineralogy, Economic Geology, with practical work in the field, Mining Machinery with the application of steam and electricity to the various operations connected with the exploitation of mines.

The student, if a candidate for a degree, will also be required to prosecute the necessary studies in that course of engineering in which he has not graduated. This course of study will be under the charge of the professors in the different engineering departments, the professor of Chemistry, and the professor of Mineralogy and Geology.

Special Students in Post-Senior Studies.—Students who are not graduates, but are qualified in special subjects to prosecute post-senior studies, and desire to prepare themselves more thoroughly for professional or special work in any one of the departments of engineering, in chemistry or pharmacy, veterinary science, or other subjects in which instruction is given, may, when qualified, with approval of the Faculty, enter this higher department of study and have all the privileges of post-graduate students.

A certificate of proficiency will be given when any one subject of a post-graduate course is satisfactorily completed.

Two degrees will not be given the same year.

PROFESSIONAL DEGREES.

The professional degree of Civil Engineer, Electrical Engineer, Mechanical Engineer, Mining Engineer, or Pharmaceutical Chemist will be given four years after receiving the degree of Master of Science, provided two years of the intervening time have been spent in a responsible position in practical engineering work in that department in which he received the degree of Master of Science, or in practical pharmacy, and an approved thesis is submitted to the Faculty, with a report of the character of the work done. Under the same regulations the professional degrees enumerated above may be given eight years after receiving the degree of Bachelor of Science, provided four years have been spent in practical work in the department in which one received this degree.

SPECIAL ONE-YEAR COURSE IN AGRICULTURE.

Young men over twenty-one years of age who desire to study agriculture will be permitted, without examination, to enter any class under the professor of agriculture, and will be excused from reciting in any other class, from military duty, and from all other college duties; but will be under the general college regulations, and will be required to have their time fully occupied.

They may attend the lectures in agriculture in all the classes and engage in the practical work at the experiment station, in the field, stock-yard, dairy, garden, orchard, vineyard, etc., and may thus, in one year, acquire valuable practical knowledge of scientific agriculture.

LABORATORY INSTRUCTION.

Laboratory instruction constitutes an important feature in the courses of education provided for the students of this Institute, and as far as possible all students are required to enter upon laboratory work in some one department.

Laboratory instruction and practical work are given in the following departments:

I. CHEMISTRY.
II. CIVIL ENGINEERING, FIELD WORK, SURVEYING, ETC.
III. AGRICULTURE.
IV. BOTANY.
V. MINERALOGY.
VI. BIOLOGY.
VII. TECHNICAL DRAWING.
VIII. MECHANIC ARTS.
IX. PHYSICS.
X. ELECTRICAL ENGINEERING.
XI. MECHANICAL ENGINEERING.
XII. PHYSIOLOGY AND VETERINARY SCIENCE.
XIII. PHARMACY.
XIV. HORTICULTURE.

NOTE—Special work in English or History may be taken by students in the general course as a substitute for laboratory work.

I. COURSE IN CHEMISTRY AND AGRICULTURE.

The numerals opposite the subjects indicate the number of hours per week.

FRESHMAN CLASS.

First Term.	*Second Term.*	*Third Term.*
5. English.	5. English.	5. English.
2. History.	2. History.	3. History.
5. Mathematics.	5. Mathematics.	5. Mathematics.
3. Elementary Physics.	3. Elementary Physics.	2. Agriculture.
3. Drawing.	3. Drawing.	3. Drawing.
6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y.
3. Military Drill.	3. Military Drill.	3. Military Drill.

SOPHOMORE CLASS.

First Term.	*Second Term.*	*Third Term.*
3. English.	3. English.	3. English.
3. History.	3. History.	3. Botany.
5. Mathematics.	5. Mathematics.	5. Mathematics.
3. General Chemistry.	3. General Chemistry.	3. General Chemistry.
2. Agriculture.	2. Agriculture.	2. Agriculture.
3. Drawing.	3. Drawing.	3. Drawing.
2. Physiology.	2. Physiology.	2. Physiology.
2. Chemical Lab'y.	2. Chemical Lab'y.	2. Chemical Lab'y.
6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y.	3. Military Drill.
3. Military Drill.	3. Military Drill.	4. Agriculture Lab'y.
4. Agriculture Lab'y.	4. Agriculture Lab'y.	4. Botanical Lab'y.
		2. Horticulture.

JUNIOR CLASS.

First Term.	*Second Term.*	*Third Term.*
3. English (a).	3. English (a).	3. English (a).
3. Physics.	3. Physics.	3. Physics.
2. Agricultural Chem.	2. Agricultural Chem.	3. Industrial Chemistry.
2. Agriculture.	2. Agriculture.	2. Horticulture.
2. Botany.	2. Botany.	2. Botany.
2. Horticulture.	2. Horticulture.	1. Military Tactics.
1. Military Tactics.	1. Military Tactics.	6. Chemical Lab'y.
6. Chemical Lab'y.	6. Chemical Lab'y.	2. Veterinary Science.
2. Veterinary Science.	2. Veterinary Science.	3. Clinical Lab'y.
3. Clinical Lab'y.	3. Clinical Lab'y.	2. Botanical Lab'y.
2. Botanical Lab'y.	2. Botanical Lab'y.	4. Horticultural Lab'y.
4. Horticultural Lab'y.	4. Horticultural Lab'y.	3. Military Drill.
2. Agricultural Lab'y.	2. Agricultural Lab'y.	
3. Military Drill.	3. Military Drill.	

SENIOR CLASS.

First Term.	*Second Term.*	*Third Term.*
2. English Literature.	2. Political Econ. (b)	2. Political Economy.
2. Mental Science (c).	2. Mental Science (c).	2. Mental Science (c).
2. Physics.	2. Physics.	2. Astronomy.

2. Geology.	2. Geology.	2. Geology.
2. Botany.	2. Botany.	2. Botany.
2. Agriculture.	2. Agriculture.	2. Agriculture.
1. Military Science.	1. Military Science.	1. Military Science.
6. Chemical Lab'y.	6. Chemical Lab'y.	6. Chemical Lab'y.
2. Veterinary Science.	2. Veterinary Science.	2. Veterinary Science.
3. Clinical Lab'y.	3. Clinical Lab'y.	3. Clinical Lab'y.
4. Botanical Lab'y.	4. Botanical Lab'y.	4. Botanical Lab'y.
2. Agric. Lab'y. (1, 2).	2. Agric. Lab'y. (1, 2).	

(a) French or German may be substituted.
(b) Begins Feb. 15th. (c) German or French may be substituted.

II. COURSE IN CIVIL ENGINEERING.

The numerals opposite the subjects indicate the number of hours per week.

FRESHMAN CLASS.

First Term.	*Second Term.*	*Third Term.*
5. English.	5. English.	5. English.
2. History.	2. History.	3. History.
5. Mathematics.	5. Mathematics.	5. Mathematics.
3. Elementary Physics.	3. Elementary Physics.	2. Agriculture.
3. Drawing.	3. Drawing.	3. Drawing.
6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y.
3. Military Drill.	3. Military Drill.	3. Military Drill.

SOPHOMORE CLASS.

First Term.	*Second Term.*	*Third Term.*
3. English.	3. English.	3. English.
3. History.	3. History.	3. Elem't'y. Mechanics.
5. Mathematics.	5. Mathematics.	5. Mathematics.
3. General Chemistry.	3. General Chemistry.	3. General Chemistry.
2. Agriculture (b).	2. Agriculture (b).	2. Agriculture (b).
2. Physiology.	2. Physiology.	2. Physiology.
3. Drawing.	3. Drawing.	3. Drawing (a).
6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y.
2. Chemical Lab'y.	2. Chemical Lab'y.	2. Chemical Lab'y.
3. Military Drill.	3. Military Drill.	3. Military Drill.

JUNIOR CLASS.

First Term.	*Second Term.*	*Third Term.*
3. English, French or German.	3. English, French or German.	3. English, French or German.
3. Physics.	3. Physics.	3. Physics.
5. Mathematics .	5. Mathematics .	5. Mathematics .
5. Civil Engineering.	5. Civil Engineering.	5. Civil Engineering.
5. Drawing.	5. Drawing.	5. Drawing.
1. Military Tactics.	1. Military Tactics.	1. Military Tactics.
6. Lab'y. Mechanic Arts (c).	6. Lab'y. Mechanic Arts (c).	6. Lab'y. Mechanic Arts (c).
1. Field Work, Engineering.	1. Field Work, Engineering.	1. Field Work, Engineering.
1. Military Drill.	1. Military Drill.	1. Military Drill.

SENIOR CLASS.

First Term.	*Second Term.*	*Third Term.*
2. English Literature, (d).	2. Political Economy, (d).	2. Political Economy, (d).
2. Physics.	2. Physics.	2. Astronomy.
2. Geology.	2. Geology.	2. Geology.
3. Mathematics.	3. Mathematics.	3. Mathematics.
5. Civil Engineering.	5. Civil Engineering.	5. Civil Engineering.
5. Drawing.	5. Drawing.	5. Drawing.
1. Military Science.	1. Military Science.	1. Military Science.
4. Mech. Eng., Lab'y, Field Work, Engineering.	4. Mech. Eng., Lab'y, Field Work, Engineering.	4. Mech. Eng., Lab'y, Field Work, Engineering.

(a) Perspective Drawing, or Mechanical Drawing.
(b) Physical Laboratory may be substituted.
(c) Or Mineralogy.
(d) French or German may be substituted.

III. COURSE IN ELECTRICAL AND MECHANICAL ENGINEERING.

The numerals opposite the subjects indicate the number of hours per week. In Freshman and Sophomore classes the same studies are prescribed as in Course II in Civil Engineering.

JUNIOR CLASS.

First Term.	*Second Term.*	*Third Term.*
3. English, French or German.	3. English, French or German.	3. English, French or German.
3. Physics.	3. Physics.	3. Physics.
5. Mathematics.	5. Mathematics.	5. Mathematics.
4. Electrical Engineering.	4. Electrical Engineering.	4. Electrical Engineering.
3. Mechanical Engineering.	3. Mechanical Engineering.	3. Mechanical Engineering.
4. Mechanical Drawing.	4. Mechanical Drawing.	4. Mechanical Drawing.
4. Electrical Lab'y.	4. Electrical Lab'y.	4. Electrical Lab'y.
6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y.
1. Military Tactics.	1. Military Tactics.	1. Military Tactics.
3. Military Drill.	3. Military Drill.	3. Military Drill.

SENIOR CLASS.

First Term.	*Second Term.*	*Third Term.*
2. English Literature, (a).	2. Political Economy, (a).	2. Political Economy, (a).
2. Physics.	2. Physics.	2. Astronomy.
2. Materials of Machines.	2. Indicator Practice.	2. Pumping Machinery.
3. Mathematics.	3. Mathematics.	3. Mathematics.
5. Electrical Engineering.	5. Electrical Engineering.	5. Electrical Engineering.
5. Mechanical Engineering.	5. Mechanical Engineering.	5. Mechanical Engineering.
	2. Electrical Designing.	2. Electrical Designing.

2. Electrical Designing.	6. Electrical Lab'y.	6. Electrical Lab'y.
6. Electrical Lab'y.	4. Mech. Eng. Lab'y.	4. Mech. Eng. Lab'y.
4. Mech. Eng. Lab'y.	1. Military Science.	1. Military Science.
1. Military Science.		

(a) French or German may be substituted.

IV. CHEMISTRY AND METALLURGY.

The numerals opposite the subjects indicate the number of hours per week. In the Freshman and Sophomore classes the same studies are prescribed as in either course I in Agriculture and Chemistry, or in course V in General Course.

JUNIOR CLASS.

First Term.	*Second Term.*	*Third Term.*
3. English.	3. English.	3. English.
3. Physics.	3. Physics.	3. Physics.
3. Industrial Chemistry.	3. Industrial Chemistry.	3. Industrial Chemistry.
2. Organic Chemistry.	2. Organic Chemistry.	2. Organic Chemistry.
3. German.	3. German.	3. German.
4*Mineralogy (Lab'y.)	4. Mineralogy (Lab'y).	4. Mineralogy (Lab'y).
1. Military Science.	1. Military Science.	1. Military Science.
9. Chemical Lab'y.	9. Chemical Lab'y.	9. Chemical Lab'y.
3. Military Drill.	3. Military Drill.	3. Military Drill.

SENIOR CLASS.

First Term,	*Second Term.*	***Third Term.***
2. English Literature.	2. Political Economy.	2. Political Economy.
2. Physics.	2. Physics.	2. Astronomy.
3. German.	3. German.	3. German.
2. Geology.	2. Geology.	2. Geology.
3. French.	3. French.	3. French.
2. Metallurgy and Engineering Chem.	2. Metallurgy and Engineering Chem.	2. Metallurgy and Engineering Chem.
1. Analytical Chemistry.	1. Analytical Chemistry.	1. Analytical Chemistry.
1. Military Science.	1. Military Science.	1. Military Science.
9. Chemical Lab'y.	9. Chemical Lab'y.	9. Chemical Lab'y.

V. GENERAL COURSE.

The numerals opposite the subjects indicate the number of hours per week.

FRESHMAN CLASS.

First Term.	*Second Term.*	*Third Term.*
3. English.	3. English.	3. English.
2. History.	2. History.	3. History.
4. Latin.	4. Latin.	3. Latin.
5. Mathematics.	5. Mathematics.	5. Mathematics.
3. Drawing.	3. Drawing.	2. Agriculture.
6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y.	3. Drawing.
3. Military Drill.	3. Military Drill.	6. Mechanic Art Lab'y.
		3. Military Drill.

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*Mechanic Art. Lab'y. may be substituted.

SOPHOMORE CLASS.

First Term.	*Second Term.*	*Third Term.*
5. Latin.	5. Latin.	5. Latin.
3. History.	3. History.	3. Botany or Elementary Mechanics.
5. Mathematics.	5. Mathematics.	5. Mathematics.
3. General Chemistry.	3. General Chemistry.	3. General Chemistry.
3. Drawing.	3. Drawing.	3. Drawing.
6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y.	6. Botanical Lab'y. or Mech. Art Lab'y.
2. Chemical Lab'y.	3. Military Drill.	3. Military Drill.
3. Military Drill.	2. Chemical Lab'y.	2. Chemical Lab'y.

JUNIOR CLASS.

First Term.	*Second Term.*	*Third Term.*
3. English.	3. English.	3. English.
3. Physics.	3. Physics.	3. Physics.
3. Mathematics.	3. Mathematics.	3. Mathematics.
3. French.	3. French.	3. French.
3. German.	3. German.	3. German.
3. Latin.	3. Latin.	3. Latin.
1. Military Tactics.	1. Military Tactics.	1. Military Tactics.
6. Lab'y. Work (a).	6. Lab'y. Work (a).	6. Lab'y. Work (a).
3. Military Drill.	3. Military Drill.	3. Military Drill.

SENIOR CLASS.

First Term.	*Second Term.*	*Third Term.*
2. English.	2. Political Economy.	2. Political Economy.
2. Mental Science.	2. Mental Science.	2. Mental Science.
2. Physics.	2. Physics.	2. Astronomy.
2. Geology.	2. Geology.	2. Geology.
3. French.	3. French.	3. French.
3. German.	3. German.	3. German.
2. Latin.	2. Latin.	2. Latin.
1. Military Science.	1. Military Science.	1. Military Science.
6. Lab'y. Work (a).	6. Lab'y. Work (a).	6. Lab'y. Work (a).

VI. COURSE IN PHARMACY.

The numerals opposite the subjects indicate the number of hours per week.

FRESHMAN CLASS.

First Term.	*Second Term.*	*Third Term.*
3. English.	3. English.	3. English.
2. History.	2. History.	3. History.
4. Latin.	4. Latin.	3. Latin.
5. Mathematics.	5. Mathematics.	5. Mathematics.
3. Drawing.	3. Drawing.	3. Drawing.
6. MechanicArt Lab'y.	6. MechanicArt Lab'y.	2. Agriculture.
3. Military Drill.	3. Military Drill.	6. Mechanic Art Lab'y.
		3. Military Drill.

(a) The student may elect the laboratory of any department for which he may be qualified.

SOPHOMORE CLASS.

First Term.	*Second Term.*	*Third Term.*
5. Latin.	5. Latin.	5. Latin.
3. History.	3. History.	3. Botany.
5. Mathematics.	5. Mathematics.	5. Mathematics.
3. General Chemistry.	3. General Chemistry.	3. General Chemistry.
2. Physiology.	2. Physiology.	2. Physiology.
3. Drawing.	3. Drawing.	3. Drawing.
6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y.
2. Chemical Lab'y.	2. Chemical Lab'y.	2. Chemical Lab'y.
3. Military Drill.	3. Military Drill.	3. Military Drill.

JUNIOR CLASS.

First Term.	*Second Term.*	*Third Term.*
3. Physics.	3. Physics.	3. Physics.
6. Chemical Lab'y.	6. Chemical Lab'y.	6. Chemical Lab'y.
4. Botany.	4. Botany.	4. Botany.
3 English (a).	3. English (a).	3. English (a).
3. Pharmacy.	3. Pharmacy.	3. Pharmacy.
9. Pharmaceutical Lab.	9. Pharmaceutical Lab.	9. Pharmaceutical Lab.
4. Pharmacognosy.	4. Pharmacognosy.	4. Pharmacognosy.
1. Military Tactics.	1. Military Tactics.	1. Military Tactics.
3. Military Drill.	3. Military Drill.	3. Military Drill.

SENIOR CLASS.

First Term.	*Second Term.*	*Third Term.*
3. Bacteriology.	3. Bacteriology.	3. Materia Medica.
3. Bacteriology Lab'y.	3. Bacteriology Lab'y.	3. Urinalysis.
6. Chemical Lab'y.	6. Chemical Lab'y.	7. Toxicology.
2. Organic Chemistry.	2. Organic Chemistry.	2. Organic Chemistry.
5. Pharmacy.	5. Pharmacy.	5. Pharmacy.
15. Pharmaceutical Lab.	15. Pharmaceutical Lab.	15. Pharmaceutical Lab.
4. Pharmacognosy.	4. Pharmacognosy.	4. Pharmacognosy.
1. Military Science.	1. Military Science.	1. Military Science.

VII. TWO-YEAR COURSE IN MECHANIC ARTS.

FIRST YEAR.

First Term.	*Second Term.*	*Third Term.*
5. English.	5. English.	5. English.
2. History.	2. History.	3. History.
5. Mathematics.	5. Mathematics.	5. Mathematics.
3. Elementary Physics.	3. Elementary Physics.	2. Agriculture.
3. Drawing.	3. Drawing.	3. Drawing.
6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y.
3. Military Drill.	3. Military Drill.	3. Military Drill.

SECOND YEAR.

First Term.	*Second Term.*	*Third Term.*
3. English.	3. English.	3. English.
5. Mathematics.	5. Mathematics.	5. Mathematics.
3. Physics.	3. Physics.	3. Physics.
3. Drawing.	3. Drawing.	3. Drawing.
12. Mechanic Art. Lab.	12. Mechanic Art. Lab.	12. Mechanic Art. Lab.
3. Military Drill.	3. Military Drill.	3. Military Drill.

(a) French or German may be substituted.

VIII. TWO-YEAR COURSE IN AGRICULTURE.

FIRST YEAR.

First Term.	*Second Term.*	*Third Term.*
3. English.	3. English.	3. Botany
2. Physiology.	2. Physiology.	2. Physiology.
2. Agriculture.	2. Agriculture.	2. Agriculture.
4. Practical Agriculture.	4. Practical Agriculture.	4. Practical Agriculture.
2. Veterinary Science.	2. Veterinary Science.	2. Veterinary Science.
3. Clinical Lab'y.	3. Clinical Lab'y.	3. Clinical Lab'y.
3. General Chemistry.	3. General Chemistry.	3. General Chemistry.
2. Chemical Lab'y.	2. Chemical Lab'y.	2. Chemical Lab'y.
3. Elementary Physics.	3. Elementary Physics.	3. Elementary Physics.
6. Mechanic Art Lab'y., (a).	6. Mechanic Art Lab'y., (a).	4. Botanical Lab'y.
		2. Horticulture.
3. Military Drill.	3. Military Drill.	3. Military Drill.

SECOND YEAR.

First Term.	*Second Term.*	*Third Term.*
3. English.	3. English.	3. English.
4. Agriculture.	4. Agriculture.	4. Agriculture.
4. Practical Agriculture.	4. Practical Agriculture.	2. Practical Agriculture.
2. Agricultural Chem.	2. Agricultural Chem.	3. Industrial Chemistry.
6. Chemical Lab'y.	6. Chemical Lab'y.	6. Chemical Lab'y.
2.*Veterinary Science.	2. Veterinary Science.	2. Veterinary Science.
3. Clinical Lab'y.	3. Clinical Lab'y.	3. Clinical Lab'y.
2. Horticulture.	2. Horticulture.	4. Horticulture.
2.*Botany.	2. Botany.	2. Botany.
2. Botany Lab'y.	2. Botany Lab'y.	2. Botany Lab'y.
3. Military Drill.	3. Military Drill.	3. Military Drill.

IX. TWO-YEAR COURSE IN PHARMACY.

FIRST YEAR.

First Term.	*Second Term.*	*Third Term.*
3. General Chemistry.	3. General Chemistry.	3. General Chemistry.
2. Chemical Lab'y.	2. Chemical Lab'y.	2. Chemical Lab'y.
3. English.	3. English.	3. Botany.
2. Physiology.	2. Physiology.	2. Physiology.
3. Pharmacy.	3. Pharmacy.	3. Pharmacy.
4. Pharmacognosy.	4. Pharmacognosy.	4. Pharmacognosy.
6. Mechanic Art Lab'y (a).	6. Mechanic Art Lab'y (a).	6. Mechanic Art Lab'y (a).
3. Military Drill.	3. Military Drill.	3. Military Drill.

SECOND YEAR.

First Term.	*Second Term.*	*Third Term.*
5. Pharmacy.	5. Pharmacy.	5. Pharmacy.
5. Pharmacognosy.	5. Pharmacognosy.	5. Pharmacognosy.
15. Pharmaceutical Lab'y.	15. Pharmaceutical Lab'y.	15. Pharmaceutical Lab'y.
6. Chemical Lab'y	6. Chemical Lab'y	6. Toxicology.
6. Bacteriology.	6. Bacteriology.	3. Materia Medica.
4. Botany.	4. Botany.	4. Botany.
3. Military Drill.	3. Military Drill.	3. Military Drill.

*Elective.

(a) Or Physical Laboratory.

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*Elective. (a) or Physical Laboratory.

SCHEDULE OF EXERCISES.

HOURS	MONDAY.	TUESDAY.	WEDNESDAY.	THURSDAY.	FRIDAY.	SATURDAY.
I. 8-9	4. Algebra. 3. Latin. 2. Pharmacy. 2. Mech. Engineer'g. 2. Horticult. Lab'y. 1 and 2. Drawing. 1. Elec. Engineer'g. 1. Botany. 1. German. 1. Bacteriology.	4. Geometry. 3. Agriculture. 3. Latin. 2. German. 2. Botany. 1 and 2. Drawing. 1. Elec. Engineer'g. 1. Mental Science.	4. Algebra. 3. Latin. 2. Pharmacy. 2. Vet. Science. 2. Mech Engineer'g. 1. Botany. 1 and 2. Drawing. 1. Elec. Engineer'g. 1. German.	4. Geometry. 3. Latin. 2. German. 2. Botany. 2. Mech. Engineer'g. 1 and 2. Drawing. 1. Mental Science. 1. Elec. Engineer'g.	4. Algebra. 3. Latin. 2. Pharmacy. 2. Veterinary Sci. 1 and 2. Drawing. 1. Elec. Engineer'g. 1. German.	Exercises in Elocution.
II. 9-10	4. English. 3. Chemistry. 2. Civ. Engineer'g. 2. Elec. Engineer'g. 2. Latin. 2. Horticult. Lab'y. 1. Calculus. 1. Botany (Lab.) 1. Bacteriology.	4. History. 3. Physiology. 2. Civ. Engineer'g. 2. Elec. Engineer'g. 2. Botanical Lab'y. 1. Chemistry. 1. French.	4. English. 3. Chemistry. 2. Civ. Engineer'g. 2. Elec. Engineer'g. 2. Latin. 2. Horticulture. 1. Calculus. 1. Pharmacognosy. 1. Botany.	4. History. 3. Agriculture. 2. Civ. Engineer'g. 2. Botany. 2. Elec. Engineer'g. 1. Chemistry. 1. French. 1. Veterinary Sci.	4. English. 3. Chemistry. 2. Civ. Engineer'g. 2. Latin. 2. Mech. Drawing. 2. Horticulture. 1. Calculus. 1. Veterinary Sci.	Military Drill.
III. 10-11	3. English. 2. Physics. 1. Civ. Engineer'g. 1. Botany (Lab.) 1. Latin. 1. Mech. Engineer'g. 1. Bacteriology.	4. English. 3. Botany (Lab. 3). 3. History (1, 2.) 2. French. 2. Mech. Drawing. 2. Botany. 1. Agriculture. 1. Machine Design. 1. Pharmacognosy 1. Civ. Engineer'g. 1. Mech. Engineer'g.	3. English. 2. Physics. 1. Latin. 1. Civil Engineer'g. 1. Mech. Engineer'g. 1. Botany (Lab'y.)	4. English. 3. History (1, 2.) 3. Botany (3.) 2. French. 2. Botany. 1. Civ. Engineer'g. 1. Mech. Engineer'g. 1. Machine Desi'g. 1. Pharmacognosy.	3. English. 2. Physics. 1. Civ. Engineer'g. 1. Pharmacognosy. 4. History (3). 1. Mech. Engineer'g. 1. Agriculture.	Mechanic Arts. Chemical Lab'y. Electrical Lab'y. Physical Lab'y. Veterinary Clinics. Field Engineering.

SCHEDULE OF EXERCISES—*Continued.*

HOURS	MONDAY.	TUESDAY.	WEDNESDAY.	THURSDAY.	FRIDAY.	SATURDAY.
IV. 11-12	4. Physics. 4. Mechanic Arts. 4. Agriculture (3.) 4. Latin (1, 2.) 3. Drawing. 2. Mathematics. 2. Chemistry. 2. Pharmacognosy. 1. English (1, 2.) 1. Pol. Econ. (2, 3.)	4. Latin. 3. Drawing. 2. Horticulture. 2. Mathematics. 2. Chemistry Agr. 2. Pharmacognosy. 1. French. 1. Physics.	4. Physics (1, 2.) 4. Latin (3.) 4. Mechanic Arts. 3. History (1, 2.) 3. Botany (3.) 2. Mathematics. 2. Chemistry. 2. Pharmacognosy. 1. English (1, 2.) 1. Pol. Econ. (2, 3.)	4. Latin. 3. Physiology. 2. Horticulture. 2. Mathematics. 2. Chemistry Ag. 1. French. 1. Physics.	4. Physics (1, 2.) 4. Mechanic Arts. 4. Agriculture (3.) 4. Latin (1, 2.) 3. Drawing. 2. Mathematics. 2. Chemistry. 2. Pharmacognosy. 1. Military Science.	1. Pharmaceutical Lab'y. 3. Mechanic Arts. Chemical Lab'y. Electrical Lab'y. Physical Lab'y. Veterinary Clinics. Field Engineering.
V. 12-1	4. Drawing. 4. Mechanic Arts. 3. Mathematics. 2. English. 1. Elec. Design'g. 1. French. 1. Pharmacy. 1. Eng. Chem. and Metallurgy.	3. Mathematics. 2. English. 1. Geology. 1. Pharmacy.	4. Drawing 4. Mechanic Arts. 3. Mathematics. 2. German. 2. Anal. Chemistry. 1. Pharmacy. 1. Eng. Chem. and Metallurgy. 1. Elec. Designing.	3. Mathematics. 2. English. 1. Geology. 1. Pharmacy.	4. Drawing. 4. Mechanic Arts. 3. Mathematics. 2. Military Tactics. 1. Elec. Designing. 1. Pharmacy.	3. Mechanic Arts. Chemical Lab'y. Electrical Lab'y. Physical Lab'y. Veterinary Clinics. Field Engineering.
P. M. 2-4	4. Mechanic Arts. 3. Field Work, Agr. 3. Botanical Lab. (3.) 1 and 2. Lab. Chem. 1 and 2. Field Work, Engineering. 1 and 2. Mach. Work. Elec. Lab. Work. Physical Lab'y.	3. Mechanic Arts. 3. Botanical Lab. (3.) 2. Mineralogical Lab. 2. Agriculture (1, 2.) Military Drill (*). 1. Mech. Lab'y. Elec. Lab'y. Work. 1 and 2. History.	4. Mechanic Arts. 3. Field Work, Agr. 3. Botanical Lab. (3.) 1 and 2. Lab'y Chem. 1 and 2, Field Work, Engineering. 1 and 2. Mach. Work. Exercises in Eloc't'n. Elec. Lab. Work. Physical Lab'y.	3. Mechanic Arts. 3. Botanical Lab. (3.) 2. Mineralogical Lab. Military Drill (*). 1. Mech. Lab'y. Elec. Lab'y. Work. 1 and 2. History. 1. Agriculture (1, 2.)	4. Mechanic Arts. 3. Horticulture (3.) 2. French. 1 and 2. Lab. Chem. 1 and 2. Field Work, Engineering. 1 and 2, Mach. Work. Exercises in Eloc't'n. Elec. Lab. Work. Physical Lab'y.	

Chapel services daily at 7:45 a. m. *From 4:30 to 5:30 p. m.
Numbers prefixed denote classes—1 denotes senior; 2, junior, etc. Numbers affixed—(1), (2), (3), denote terms.

DEPARTMENTS OF INSTRUCTION.

ENGLISH AND POLITICAL ECONOMY.

PRESIDENT THACH.

PROFESSOR WIATT.

INSTRUCTOR WEBB.

ASSISTANT SCROGGS.

ASSISTANT YONGE.

OBJECTS AND METHODS.

In this department the students pursue a systematic course in the English language and literature.

Language is the avenue of approach to all knowledge; the interpretation of words is the fundamental process in education of whatsoever kind. A full course in English is, therefore, considered especially important in the technical courses of study that do not include the ancient classics. Accordingly, the course in English is continued throughout the four years of the college curriculum, three hours a week, and is made obligatory upon all students, with the exception of those pursuing the first two years of the course in Latin. In this extended drill in the grammar and literature of the English language, the endeavor is made to afford a training somewhat equivalent to the ordinary course in the classical languages.

In view of the ill preparation in languages, especially in their mother tongue, exhibited by many of the candidates for admission to the freshman class, it is deemed advisable, for the sake of honest work, to devote a portion of the first year to grounding such students in the principles of grammar.

Especial attention is given to the study of the writings themselves of leading American authors, since direct contact with literature is considered more profitable than information merely *about* literature.

All students before classed as regular in any course leading to a degree must conform to all the requirements in English for admission as set forth on page 37.

For requirements as to thesis and as to proficiency in English for certificates and degrees, see pages 44, 45, and 103.

Declamations and themes (or orations) are required of *all regular* students. For details see below.

COURSES OF STUDY.

Freshman Class—Five hours a week: study of grammar, the principles of special and general composition, with frequent brief papers illustrating the laws studied; study of American authors; Irving, Hawthorne, Holmes, Poe, Bryant, Longfellow.

Swinton's English Grammar, Lockwood & Emerson's Rhetoric, Kellogg & Reed's English Language.

Sophomore Class—Three hours a week; study of style, analysis of selections of prose and poetry; frequent essays on historic and literary themes.

G. R. Carpenter's Rhetoric, Genung's Rhetorical Analysis, Syle's From Milton to Tennyson.

Junior Class—Three hours a week; lectures on the history of English literature, critical study of English classics, essays.

Pancoast's History of English Literature; Pancoast's Standard English Poems, Macaulay, Carlyle, DeQuincey, etc.

Senior Class—Two hours a week, first term. Principles of Criticism, Shakespeare's Julius Cæsar, Hamlet, etc., Dowden's Shakespeare, etc.

THEMES AND ORATIONS.

Theory without practice is as fruitless in the study of English as in any other department of study. Practical work is indispensable to the successful teaching of English.

Besides numerous brief papers illustrative of the subject matter of the text-books, set themes or orations are *required of all students*: For the freshman class *ten* themes a year; *ten* for the sophomore; for the senior and junior classes, *three* orations each.

DECLAMATION.

The old practice of committing pieces to memory for "speaking" is cultivated as a means, both of training in the art of thinking on the feet, and of storing the mind with the diction of finished specimens of English style.

The sophomore class is heard weekly thoughout the year in sections of ten, once for an hour and a half in rehearsal, afterwards in the study-hall before the body of students.

The senior and junior classes also deliver their orations in public.

PHILOSOPHY AND POLITICAL ECONOMY.

The senior class pursues the study of intellectual science, twice a week, through the year; and political economy twice a week, during the last two terms. The instruction in this department is by lectures in combination with text-books.

Intellectual Science—Psychology defined. Value in relation to moral culture, education and Natural Sciences. The relation of the soul to matter. The arguments of the Materialist. Counter arguments. The Faculties of the Soul. The nature of Consciousness. Sense Perception. Fancy. Imagination. Nature of Conceptions. Language. Judgment. Reasoning. Deduction. Induction, etc. *Porter's Intellectual Science.*

Political Economy—Value; production of wealth; land; labor; capital; division of labor; distribution of wealth; wages; trades-union; tariff; education, etc. *Lectures by Professor. Ely's Outlines of Economics.*

A Post-graduate course has also been established in English. The following courses have been given:

(1) *Shakespeare*—Hamlet, Othello, Macbeth, Merchant of Venice, As You Like It, Henry IV., Part I., Richard III., King John.

(2) *Dryden—Poetical Works* (Christie); *Essay on Dramatic Poesy* (Thomas Arnold); *Essay on Satire, etc.*, (Yonge); Saintsbury's *Life of Dryden.*

Pope—Poetical Works (Ward); *Satires* (Pattison); Stephen's *Life of Pope*, Gosse's *From Shakespeare to Pope* and *18th Century Literature.*

(3) *English Literature of the Eighteenth Century*: Addison Pope, Gray; Goldsmith, Burns, Cowper, Burke.

(4) *American Literature*: Longfellow, Lowell, Poe.

(5) *The Rise and Development of the English Essay*: Bacon, Addison, Steele, Swift, Johnson, Goldsmith, Macaulay, DeQuincey, Lamb, Carlyle.

(6) *Milton—Poetical Works* (Masson); Life, Pattison, Brooke.

MATHEMATICS.

PROFESSOR SMITH.

ASSOCIATE PROFESSOR CRENSHAW.

INSTRUCTOR PATRICK.

The subjects taught in the different classes in this department are as follows:

FRESHMAN CLASS. Algebra through quadratic equations and series, geometry (seven books Wentworth), original solutions of exercises.

SOPHOMORE CLASS. Solid geometry, plane and spherical trigonometry, surveying, mensuration.

JUNIOR CLASS. Analytical geometry, descriptive geometry, differential calculus.

SENIOR CLASS. Differential and integral calculus.

Two objects are sought to be obtained: First, mental discipline; second, a thorough knowledge of the principles of pure mathematics and their practical applications.

Theoretical and practical instruction is given to the sophomore class in land surveying, mapping, plotting and computing areas, etc., also in the theory, adjustment and use of instruments.

The class, in sections of six or eight, devote three afternoons a week during the second and third terms to field practice.

The completion of this course, common to all students, lays the foundation for the pure and applied mathematics of the mechanical and engineering courses. Analytical geometry, descriptive geometry, and calculus are pursued in the engineering courses. Especial attention is given to their practical applications.

During the entire course, instruction in text-books is supplemented by lectures. Solutions of original practical problems are required of the student, to make him familiar with the application of principles and formulas.

TEXT-BOOKS.

Wentworth's Algebra, Wentworth's Geometry, Wentworth's Trigonometry, Robbins' Surveying, Wentworth's Analytical Geometry, Faunce's Descriptive Geometry, Taylor's Calculus, Johnson's Differential Equations, Osborne's Problems, Peck's Determinants.

CIVIL ENGINEERING AND DRAWING.

PROFESSOR LANE.

ASSISTANT WASHINGTON.

The special studies in this department begin in the junior class, and require a good knowledge of algebra, geometry, trigonometry, and analytical mechanics. They are as follows:

Junior Class—Simple, compound, reversed and parabolical curves, turnouts and crossings, leveling, gradients, setting slope stakes, etc.

Special attention is paid in this class to the location, construction, drainage and maintenance of country roads; and the various pavements and foundations for the same.

Senior Class—Classification, appearances, defects, seasoning, durability and preservation of timber; classification and description of natural building stones; bricks and concretes; cast and wrought iron, steel and other metals; limes, cements, mortars and their manufacture; paints and other preservatives; classification of strains and a general mathematical discussion of same; joints and fastenings; solid and open built beams; classification, construction and mechanics of masonry; foundations on land and in water; bridges and roofs of different kinds, their construction and strains determined mathematically and graphically; common roads, their coverings, location and construction of railroads; navigable, irrigation and drainage canals; river and sea-coast improvements.

Theory and practice are combined in both classes.

TEXT-BOOKS.

Junior Class.—Henck's Field Book for Railway Engineers and Byrne's Highway Construction.

Senior Class.—Wheeler's Civil Engineering and Von Ott's Graphic Statics.

DRAWING.

All of the students of the freshman and sophomore classes are required to take drawing; but only the students in civil engineering in the junior and senior classes.

The freshman class is taught linear drawing. The sophomore class is instructed in the principles of orthographic and isometric projections, shades, shadows, perspective and tinting. In the junior class the instruction embraces a more extended course in orthographic and isometric drawing, perspective, shades and tinting; also sketches of tools and machines, plans and elevations and cross-sections of buildings, and blue prints. The senior class makes topographical drawings, and drawings of machines, roofs, bridges, etc., to different scales, and blue prints. Plans, profiles and sections of railroad surveys complete the instruction in this department.

TEXT-BOOKS.

Freshman Class.—Kitchener's Geometrical Note Book, Davidson's Linear Drawing, and Davidson's Model Drawing.

Sophomore Class.—Davidson's Projections. Davidson's Practical Perspective, Keuffel & Esser's Alphabet.

Junior Class.—Davidson's Building Construction, Davidson's Drawing for Mechanics and Engineers, Keuffel & Esser's Alphabet.

Senior Class.—French, English and American plates belonging to the College, Keuffel & Esser's Alphabet.

HISTORY AND LATIN.

PROFESSOR PETRIE.

ASSISTANT MISS KATE LANE.

HISTORY.

In this department the aim is not so much to memorize facts as to understand them. Strong emphasis is laid on the fact that history is not a succession of isolated facts, but a progressive whole, each event being at once the cause and the effect of other events. The students are taught to investigate the growth of ideas and institutions, the rise and progress of great historical movements and the reciprocal influences of men and circumstances. Frequent use is made of diagrams, photographs, charts and maps, with which the department is well equipped. Instruction is given by text-books, lectures and class discussion, but a constant effort is made to stimulate to wider reading and research in the library.

In the freshman class, the subjects studied are the United States, Alabama, and England. The first term (two hours per week) is devoted to the history and government of the United States; the second term (two hours per week) to Alabama, and the third term (three hours per week) to the history of England.

In the sophomore class (three hours per week until March) the subject studied is general European history.

HISTORICAL LABORATORY.

In the junior and senior classes opportunity for special work in United States history is given those students of the General Course who elect it as laboratory work, and to any others who are properly qualified. The chief object kept in view is training in historical research and in the formation of independent but careful opinions based on the original sources of information, as well as on the standard authorities. Emphasis is laid on the importance of securing proper material for investigation and every incentive is given to the collection and use of new documents, papers and letters illustrative of Southern, and especially Alabama history.

The method of work is as follows: Informal lectures are given on important and suggestive points, as: The cause of the Revolution; the Constitutional Convention; the War of 1812; the Missouri Compromise; the Monroe Doctrine; Texas and Mexico; the Compromise of 1850; the Kansas Struggle; the Dred Scott Decision; Secession. After each lecture topics connected with it are assigned to the students with an outline of the points to be investigated. They report their results to the class and a discussion follows. The final results are collected by each student according to his own judgment in his note-book, which is then passed in to the professor for correction and suggestion.

Graduate students are expected to take part in the junior and senior discussions and in addition will meet with the professor for conference in regard to their work. Those who take history as their major subject are expected to devote a large part of their time to original research upon some topic on which they can consult the original sources of information. They are also required to pursue a prescribed course of reading as indicated below:

TEXT-BOOKS.

Freshman Class.—Hart's Formation of the Union; Wilson's Division and Reunion; Brown's History of Alabama, Montgomery's English History.

Sophomore Class.—Myers's General History.

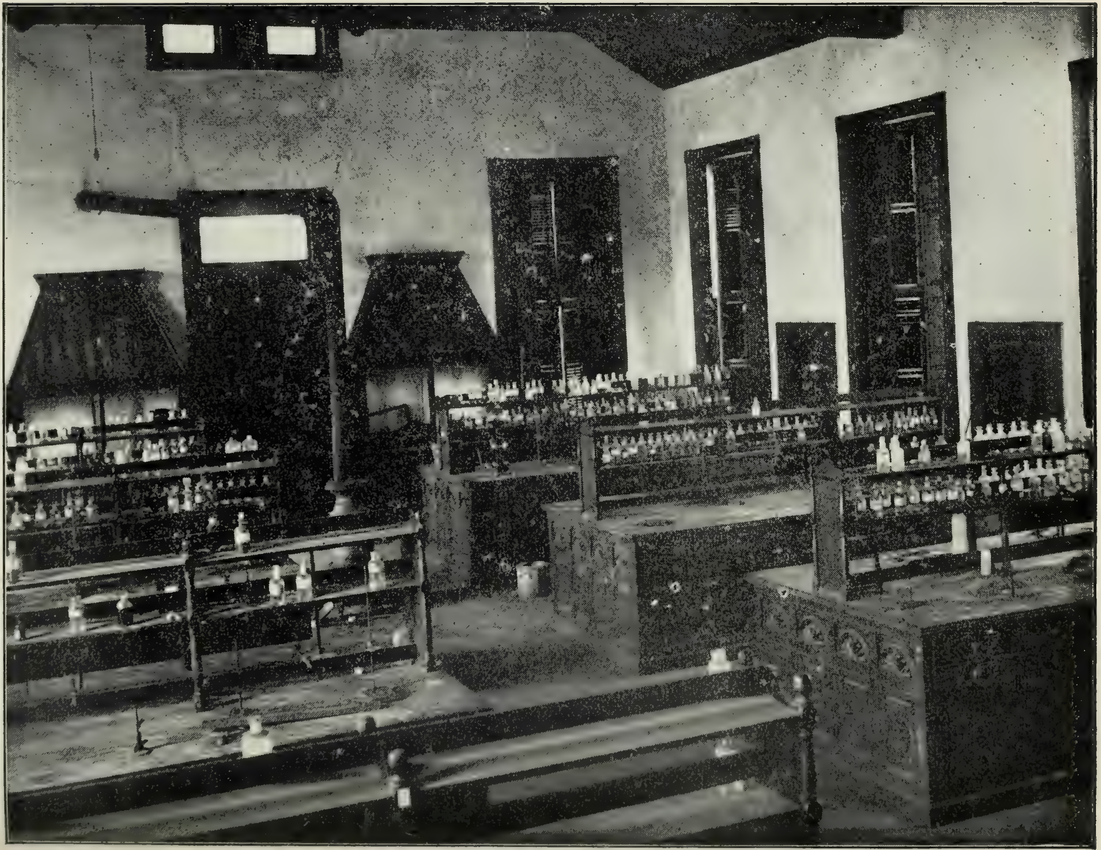
Junior and Senior Classes.—Moore's American Congress.

Graduate Course.—Wilson's History of the American People, Fiske's Critical Period, Burgess's Middle Period, Burgess's Reconstruction and the Constitution.

LATIN.

The objects kept in view in this department are: An accurate knowledge of the forms and syntax; a familiarity with Latin words, their etymology and their English derivatives; an appreciation of Latin literature and an intelligent conception of Roman history and civilization both in themselves and in their effect on the modern world.

A systematic course of instruction is given in the forms and syntax. These are taught both deductively from a grammar and inductively from the text read. Translation is constantly practiced,



CHEMICAL LABORATORY (Interior.)

sometimes at sight, sometimes after being assigned for preparation. English passages based on a familiar author or illustrative of special constructions are put in Latin, both orally and in writing. Great emphasis is laid on the etymology of the words in the text read.

In connection with every author studied in class a course of reading in English is prescribed descriptive of his life, work and times. The historical setting and the literary value of his writings are carefully discussed and frequent comparisons are made with modern authors.

In the Freshman and Sophomore classes the study of the language is the chief point. In the higher classes a broader view is taken. The Junior class makes a special study of Roman history, and Roman historians. The Senior class studies Roman poetry and Roman life.

TEXT-BOOKS.

Freshman Class.—Allen & Greenough's Grammar, Exercises, Nepos, Sallust or equivalent, Cicero.

Sophomore Class.—Cicero, Allen & Greenough's Grammar, Bennett's Latin Composition, Guerber's Mythology.

Junior Class.—Livy, Tacitus, Allen & Greenough's Grammar, Exercises, Botsford's History of Rome.

Senior Class.—Horace, Plautus, Preston & Dodge's Private Life of Romans, Latin Literature, Allen & Greenough's Latin Grammar.

CHEMISTRY.

PROFESSOR ROSS.

ASSISTANT PROFESSOR HARE.
ACTING ASSISTANT PROFESSOR RANSOM.
INSTRUCTOR PHELPS.
ASSISTANT ALFORD.

Instruction in this department embraces—

1. A course of lectures in general chemistry.
2. A course of lectures in industrial and engineering chemistry.
3. A course of lectures in organic chemistry.
4. A course of lectures in metallurgy.
5. A course of lectures in agricultural chemistry.
6. Systematic laboratory work in connection with each course of lectures, for the practice of chemical analysis and chemical research.

1. Course in general chemistry: This consists of a series of lectures (three per week) extending throughout the entire session, and includes a discussion of the fundamental principles of chemical philosophy in connection with the history, preparation, properties and compounds of the metallic and non-metallic elements, with the main facts and principles of organic chemistry. In this course the more common applications of chemistry to the arts and manufactures are discussed. The apparatus used for experimental illustration is extensive, containing the newest and approved improvements necessary for presenting the subject in the most attractive and instructive form.

REFERENCE BOOKS.

Roscoe & Schorlemmer, Fownes, Frankland, Remsen, Cooke's Chemical Philosophy, Chemical Journals.

2. Lectures in industrial chemistry (three per week) extend throughout the session, and include a discussion in detail of the processes and chemical principles involved in the most important applications of chemistry in the arts and manufactures to the preparation of materials for food and drink, for clothing, shelter, illumination, cleansing, purifying, writing, printing, etc.

These lectures are amply illustrated by means of suitable specimens of raw materials and manufactured products, together with models and diagrams.

A course of lectures (two hours per week) on engineering chemistry is given during the last half of the senior year, especial attention being given to the study of the construction and equipment of chemical plants devoted to the manufacture of the more important chemical products. The study of textile chemistry will also be included in this series of lectures.

Excursions to various chemical and metallurgical plants during the course of the year will aid in familiarizing the student with the practical details of the operations of the leading industries.

REFERENCE BOOKS.

Thorp's Industrial Chemistry, Wagner's Chemical Technology; Muspratt's Chemistry as applied to Arts and Manufacturing, Ure's Dictionary, Watt's Dictionary, Richardson and Watt's Chemical Technology, Sadtler's Industrial Organic Chemistry.

3. Course in organic chemistry: Instruction in this subject embraces lectures and recitations (two hours per week) throughout the junior year, upon the leading facts and principles of the chemistry of the carbon compounds, and includes a study of the methods of preparation of the more important compounds, their properties, and their structural and stereo-chemical relations.

TEXT AND REFERENCE BOOKS.

Remsen's Organic Chemistry, Richter's Organic Chemistry, Gatterman's Practical Methods of Organic Chemistry.

4. Course in metallurgy: This consists of lectures and recitations (two per week, during the first half of the senior year) upon the more important metals, such as iron, and steel, copper, lead, tin, silver, gold, mercury, zinc, etc. It includes a discussion of the physical and chemical properties of the metals and their alloys, the ores and their treatment, and the processes by which the metals are obtained from the ores, with chemical reactions involved.

5. Course in agricultural chemistry: This consists of lectures on chemistry in its application to agriculture (two per week, during second and third terms), and includes a thorough discussion of the origin, composition and classification of soils, the composition and growth of plants, the sources of plant food and how obtained, the improvement of soils, the manufacture and use of fertilizers, the chemical principles involved in the rotation of crops, the feeding of live stock, and the various operations carried on by the intelligent and successful agriculturist.

REFERENCE BOOKS.

Johnson's How Crops Grow, and How Crops Feed, Lupton's Elementary Principles of Scientific Agriculture, Johnson and Cameron's Elements of Agricultural Chemistry, Storer's Agriculture in Relation to Chemistry, scientific journals, reports of the United States Department of Agriculture, and the bulletins and reports of the various home and foreign agricultural departments and stations.

6. The course of systematic laboratory work: This course of practical work in the laboratory is carried on in connection with each course of lectures. In the junior year the work embraces the practical operations of chemical synthesis and analysis and includes the preparation of the non-metallic elements and their most important compounds, in addition to a systematic study of the metals and their compounds, their separation and identification. In the senior year students pursue work in quantitative analysis, including analysis of fertilizers, soils, coals, ores, iron and steel, sugars and sugar products, feed stuffs, mineral waters, fluxes, slags, cinders, furnace gases, etc., the courses of work being varied somewhat to suit the individual object of the student.

In the course in Pharmacy, instruction in Toxicology and Toxical Analysis is given during the last term of the senior year.

All students during the sophomore year are required to take two hours per week of practical laboratory work, instruction being given in the simplest methods of chemical manipulation.

The laboratories, which are open from 9 A. M. to 5 P. M., during six days in the week, are amply supplied with everything necessary for instruction in chemical manipulation in qualitative and quantitative analysis, and in the methods of prosecuting chemical research. Unusual facilities are offered to students who wish to devote their time to the special study of practical chemistry.

Each student on entering the chemical laboratory is furnished with a work table, a set of re-agent bottles and the common re-agents and apparatus used in qualitative and quantitative analysis.

At the close of the session he will be credited with such articles as may be returned in good order; the value of those which have been injured or destroyed will be deducted from his contingent fee.

In addition to the laboratory work above described it is designed to give a short course of laboratory work in industrial chemistry, in which the student will apply upon a small scale the principles involved in the processes of some of the more important chemical industries.

TEXT-BOOKS.

In qualitative analysis—Jones, Sellers, Fresenius, Plattner.

In quantitative analysis—Fresenius, Cairns, Sutton, Rose, Blair's Analysis of Iron and Steel, Bunsen, Rickett's Notes on Assaying, Mitchell's Manual of Practical Assaying, Stillman's Engineering Chemistry, Lord's Metallurgical Analysis.

In agricultural chemical analysis—Official methods of the Association of Agricultural Chemists, Wiley's Principles and Practice of Agricultural Analysis.

CHEMICAL LABORATORY.

[For description of the building see page 16.]

The chemical apparatus recently purchased for the laboratory consists of a full supply of the most approved instruments for practical work and investigation. The building is supplied with water and gas and every appliance required to meet the demands of modern scientific instruction and research. In addition to the apparatus usually supplied to first-class laboratories, there have been imported a new and improved Schmidt and Hensch's polariscope, eight short-arm balances of latest pattern, Bunsen's spectroscope, Abbe refractometer, and other instruments for delicate and accurate work.

PHYSICS.

ASSOCIATE PROFESSOR SOUTHALL.

The complete course of Physics extends over four years, and is designed to give, as far as possible, an adequate and correct idea of the methods of Physical Science, and to lay the foundation for subsequent more advanced work if (as must often be the case, especially in an institution such as this) the student desires to pursue the subject further or intends to engage in any of the great engineering professions of which Physics is so important a basis. The lectures are illustrated by experiments; the students are required to work numerous problems and exercises; recitations are held each week.

FRESHMAN COURSE.

This course is very elementary, and continues only during the first and second terms. The object in view is to make the student familiar with the fundamental principles of Physics. The class meets three times a week. (The text-book will be announced later.)

SOPHOMORE COURSE.

This is a laboratory course, and deemed especially important for students of engineering, and of great advantage to such as intend to pursue the subsequent higher work in this department. The laboratory exercises are carefully selected, being designed to illustrate the fundamental methods and principles of Physics, and, although the work is necessarily more or less elementary, at the same time such accuracy and precision as the conditions admit of are insisted upon, so that the student is expected to acquire a fairly correct idea of modern experimental investigation. The exercises consist of the fundamental measurements of Length, Mass, Density, moduluses of Elasticity, pendulum experiments, etc., together with a few more advanced experiments in connection with the simpler properties of Liquids and Gases, and the general phenomena of Heat and Sound. The student is required to write a careful report of each experiment, entering the results of observation in tabular form, and plotting a curve wherever practicable; also describing the object, apparatus, and method, and noting sources of errors, etc. Great stress is laid upon this requirement, and reports are not accepted unless they indicate that the student has done his best in every way. Four hours per week throughout entire year. (Text-book will be announced later.)

JUNIOR COURSE.

Lectures and recitations three hours a week throughout entire session. This is a more advanced course in general physics required of all candidates for a degree. The only preparation needed is a good working knowledge of mathematics through plane trigonometry. The course includes a series of illustrated lectures on the principles of Dynamics, as applied to Solids, Liquids, and Gases, Sound, and Heat, in the order named. Written exercises are required each week. (Textbook to be announced later.)

SENIOR COURSE.

Lectures and recitations two hours a week throughout the entire session. This course, although more advanced than the Junior course, and occasionally employing the higher Mathematics, is a continuation of the work of the previous year. It might be called a course in Elementary Mathematical Physics, and the subjects, varying from year to year, that are treated in the lectures are such branches of Physics as Kinematics and Dynamics, Thermodynamics, Electricity and Magnetism, Geometrical and Physical Optics, etc. The student is encouraged to solve difficulties for himself, and to read the standard treatises and original memoirs on the various topics that come under discussion.

The last term of the session will generally be devoted to a brief course of lectures in *Descriptive Astronomy.*

The text-books in this class vary with the changing subjects, and will be announced by the professor each year.

GRADUATE COURSE.

This course will be designed to meet the needs of the students who take it. It will include both theoretical and experimental work in more advanced Mathematical Physics, or in Analytical Mechanics.

MODERN LANGUAGES.

PROFESSOR WIATT.

The chief aim in this department is to give the student a thorough and accurate knowledge of the elementary principles of the subjects taught, and to enable him to read with facility the ordinary French and German at sight. To train the ear, acquire a correct pronunciation and some facility in speaking, all recitations are supplemented, as far as practicable, by oral exercises in the languages themselves.

The following regular courses are given in French and German:

French—First Year: Three recitations a week. During this year the principal object is to acquire a knowledge of the elements of grammar and a correct pronunciation, together with a facility in translating ordinary French. Reading is begun at an early age, and the principles of grammar are illustrated and impressed by frequent exercises in rendering English into French.

Second Year: Three recitations a week. During this year almost the same line of work is pursued as that begun the previous year. More difficult and varied French is read, and instruction is given upon the laws of grammar, the construction of the language, and the history of the literature. Special attention is given to sight translation.

German—Two Years: Three recitations a week the first year, three a week the second year. In this course the aim and the methods are similar to those in French.

The students in this department will meet the professor twice a week, from 4 to 5 p. m. during the *first term*, and the *third term*, for exercises in conversation in French and German.

TEXT-BOOKS.

FRENCH—*First Year*: Edgren's Grammar and Locard's Supplementary Exercises. Super's Reader.

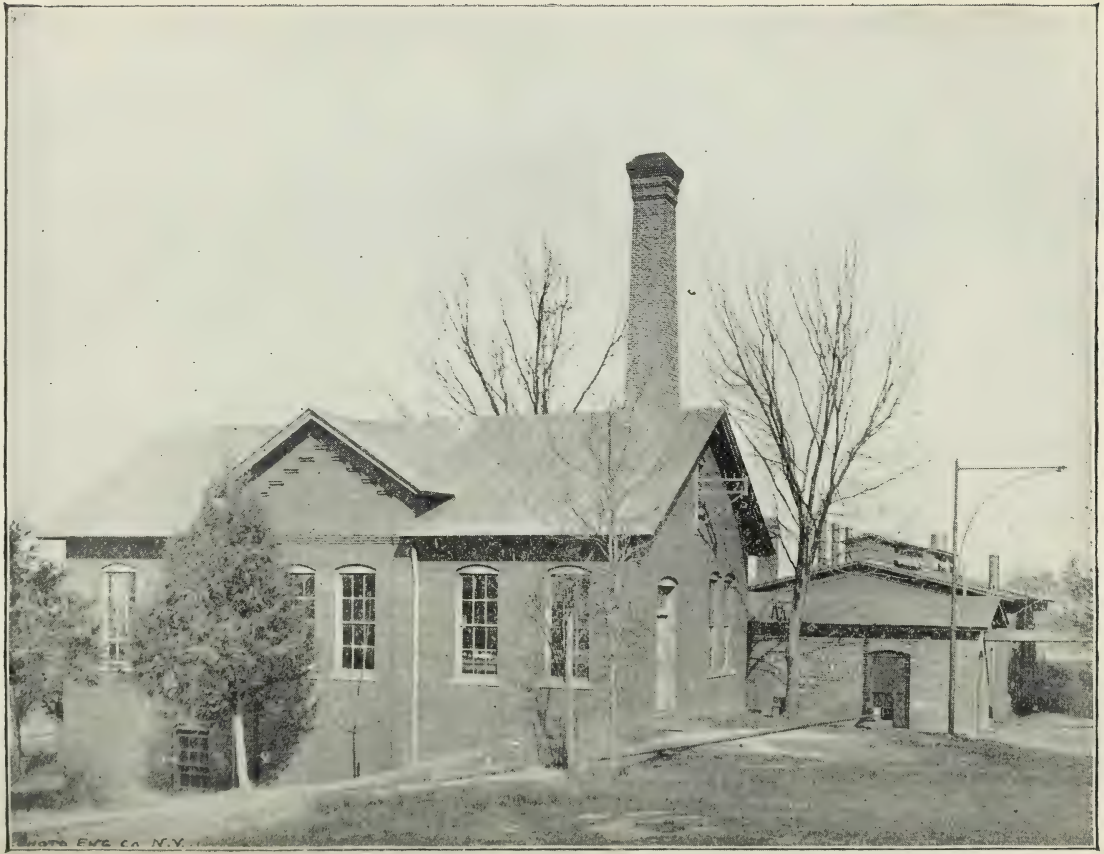
Second Year: Feuillet's Le Roman d'un Jeune Homme Pauvre, Racine's Esther, Corneille's Le Menteur, Moliere's Le Bourgeois Gentilhomme, selected plays, Whitney's Grammar, original exercises.

GERMAN—*First Year*: Joynes-Meissner's Grammar and Reader.

Second Year: Der Bibliothekar, Wilhelm Tell, Whitney's Grammar and Exercises, selected plays, original exercises.

GRADUATE COURSE.

This course is offered for the benefit of those students who wish to pursue the study of these subjects beyond the scope to which a two-year course necessarily limits them. Here, in addition to the authors studied in the lecture room, a wide and extensive reading of authors and literature is prescribed.



ELECTRICAL BUILDING.

ELECTRICAL ENGINEERING.

PROFESSOR DUNSTAN.

ASSISTANT STOKES.

JUNIOR YEAR.

First Term: Four hours per week are devoted to the study of the principles of electricity and magnetism, with special reference to their industrial applications. The subject of electrical measurements is also treated in detail.

Second Term: Incandescent lighting, four hours per week.

Third Term: Arc lighting and wiring, four hours per week.

TEXT-BOOKS.

S. P. Thompson's Electricity, Crocker's Electric Lighting, and Cushing's Standard Wiring.

Instruction is given by lectures and recitations.

LABORATORY WORK.

Four hours per week are devoted to work in the laboratory. This includes management of batteries, electrical measurements, adjustments and testing of arc lamps, and a considerable amount of wiring and some electrical construction.

SENIOR YEAR.

First Term: Dynamo electric machinery, five hours per week.

Second Term: Alternating currents and alternating current machinery.

Third Term: Polyphase machinery and power transmission, five hours per week.

TEXT-BOOKS.

Dynamo Electric Machinery, Thompson; Alternating Currents, Franklin and Williams; Standard Polyphase Apparatus, Oudin; Electrical Problems, Hooper and Wells.

LABORATORY WORK.

Six hours per week during the Senior year are devoted to practical work in the dynamo laboratory. This work includes the study and testing of various types of dynamos and motors, the determination of various constants, dynamo and motor efficiencies, transformer testing and the general management and installation of electrical machinery.

ELECTRICAL DESIGNING.

During the first term each senior student is required to design and prepare the necessary drawings for the construction of a direct current dynamo or motor, and during the third term the design of an alternator is completed.

POST GRADUATE COURSE.

To graduate students more advanced courses of instruction are offered; these courses being varied from year to year to meet the needs of those taking them.

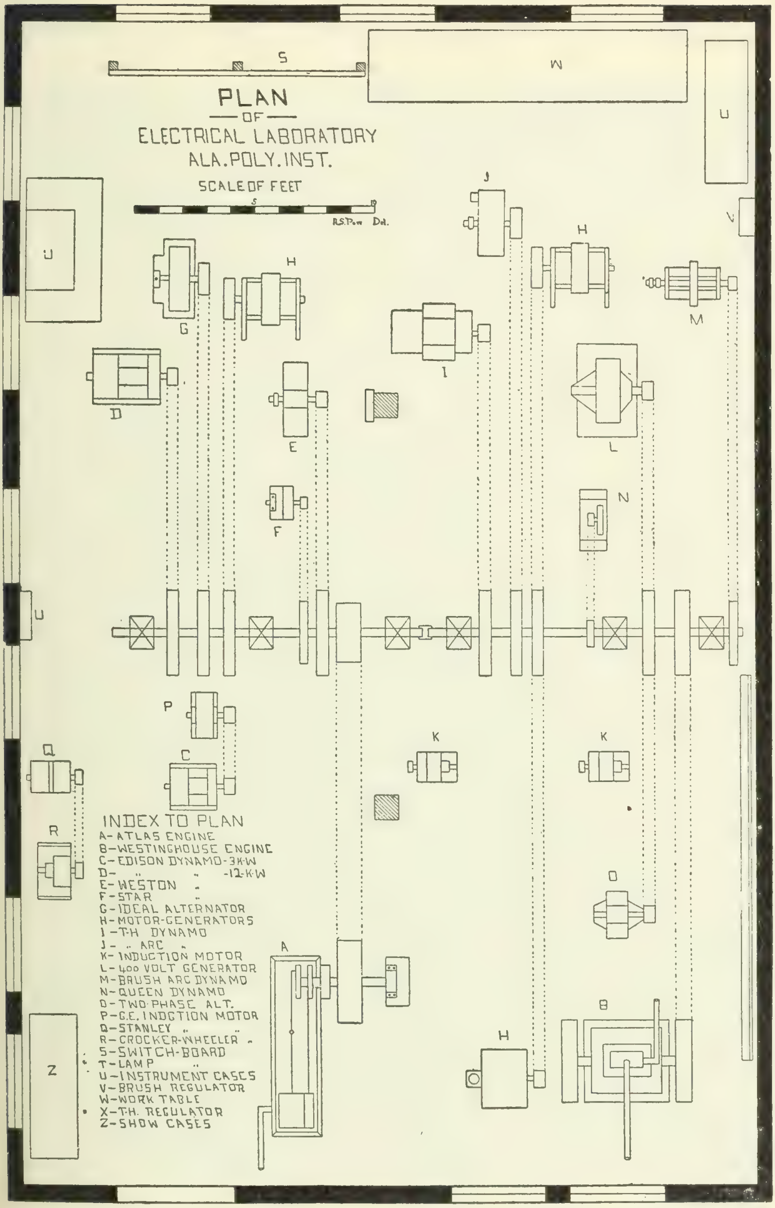
During the present session the courses given have been:

Engineering Contracts and Specifications (one term).

Street Railway Engineering (two terms). This course included the survey and complete designs and estimate of an electric line seven miles long, including the design of the power house.

Encouragement is offered to advanced students for conducting original investigations and an opportunity is taken to stimulate a spirit of scientific enquiry. Courses of reading are suggested to such students in connection with their experimental work.

The rapid extension of the lighting and power service gives unusual opportunities for practical work in wiring and the installation of electrical machinery. Most of this work is done by students, and great benefit is derived by them from it.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MECHANICAL ENGINEERING AND MECHANIC ARTS.

PROFESSOR WILMORE.

ASSISTANT PROFESSOR TRAMMELL.

ASSISTANT PROFESSOR FULLAN.

INSTRUCTOR HILL.

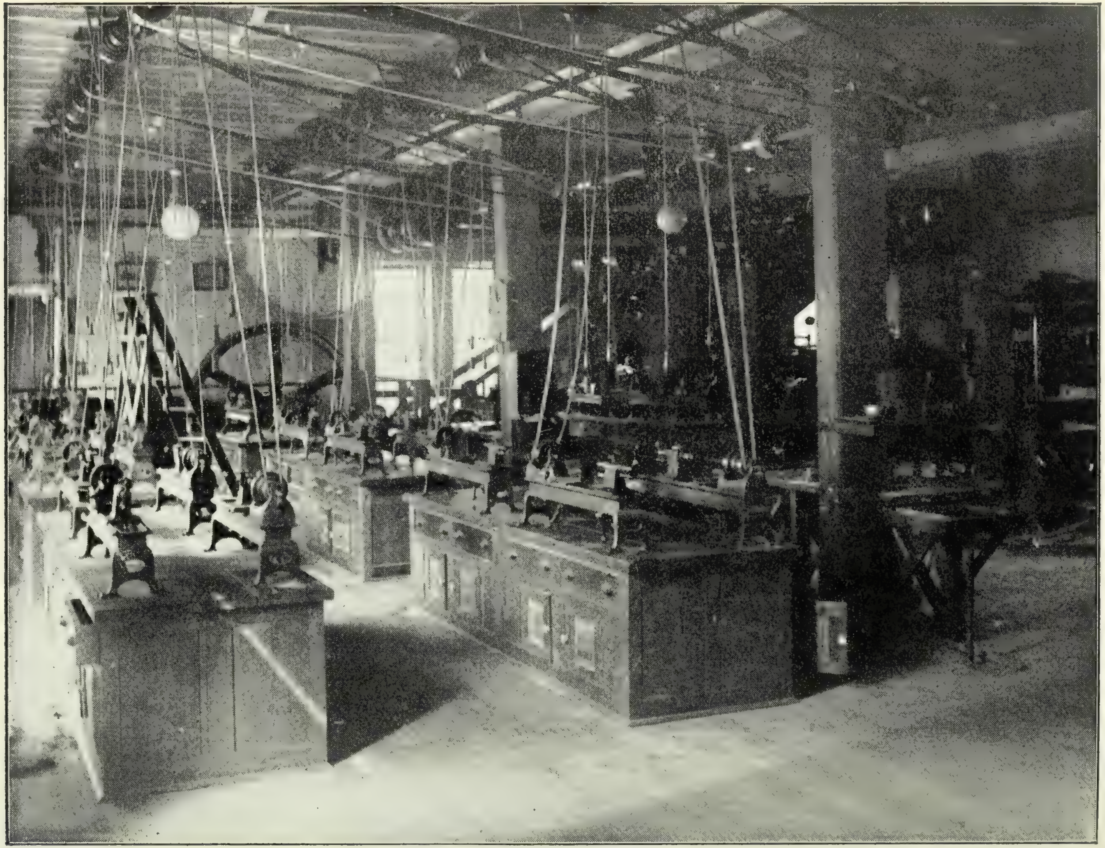
ASSISTANT HAMILTON.

The course in shop work covers three years, as follows: First year, wood working in carpentry and turning. Second year, blacksmith work, pattern making and foundry work. Third year, chipping, filing and machine work in metals. The work of each class is six hours per week, in three exercises of two hours each, and all students in the sub-freshman, freshman, and sophomore classes are expected to take the work unless excused for satisfactory reasons, by the Faculty. Machine shop work is required of all juniors in the course of Electrical and Mechanical Engineering, is optional with students in the course of Civil Engineering, and is offered to special students who are prepared to take it.

The equipment available for carrying on this work is enumerated on page 8 of this catalogue. The nature of the work in each department is as follows:

FIRST YEAR.

I. A course in carpentry or hand work covering the first two terms. The lessons include instruction in the nature and use of tools, instruction and practice in shop drawing, elementary work with the plane, saw, chisel, different kinds of joints, timber splices, cross joints, mortise and tenon, mitre and frame work, dovetail work, comprising different kinds of joints used in cabinet work, and examples in framing roof trusses. Students who make sufficient progress in their work are allowed to make a flat top office desk. Upon the payment of the bare cost of the materials, the student is allowed to take the desk to his home. This has been found to increase the interest of the student in the work, and serves as a valuable object lesson in having a considerable amount of actual construction work going on in the shop.



WOOD ROOM.

II. A course in turning extending through the third term. The lessons comprise the nature and use of the lathe and tools, plain straight turning, caliper work to different diameters and lengths, simple and compound curves, screw plate and chuck work, hollow and spherical turning.

SECOND YEAR.

I. A course in forge work in iron and steel, occupying the first term. The lessons are so arranged that the students in making them become familiar with the nature of the metals and the successive steps in working them by hand into simple and complex forms, as drawing, upsetting, bending, cutting, punching, welding by various methods, tool forging, tempering and hardening.

II. A course in pattern making covering the second term. The work includes a variety of examples of whole and split patterns, with suitable core boxes, giving the students familiarity with the use of patterns for general molding.

III. A course in molding and casting in iron and brass occupying the third term. The work for the most part consists of small articles, such as light machine parts and the stock pieces used for the exercise work in the machine shop. A sufficient variety is introduced for the student to acquire a good general knowledge of the usual methods and appliances used in light foundry work. Most of the work is in green sand in two part flasks, but core work and some more complicated molds are made to illustrate the processes.

The same patterns which have been previously made by the students are used. For the heavier and more complicated castings, special patterns are made. Instruction is given in operating the cupola, and from time to time during the year lectures are given on the metallurgy and working of the metals used in the industrial arts.

THIRD YEAR.

I. A course of chipping and filing, covering the first term. The lessons comprise work on cast and wrought iron: chipping to line on flat and curved surfaces, key seating, filing and finishing to line, surface filing, fitting, slotting, pin and screw filing, and surface finishing with scraper.

II. Machine work occupies the remainder of the year. The work includes steel, brass, and cast and wrought iron. Exercises are given in turning to various diameters and lengths, taper turning, facing with chuck and face plate, drilling in lathe and drill press, reaming, boring, screw cutting in lathe and with taps and dies. Practice is given in working the planer, shaper and milling machine. In the last part of the year some work in tool making is given, such as making taps, reamers, and milling cutters. Some sort of construction work or repair work for the department is always on the shop floor, and students who are well advanced with their work have opportunity to gain additional practice and experience by assisting with this.

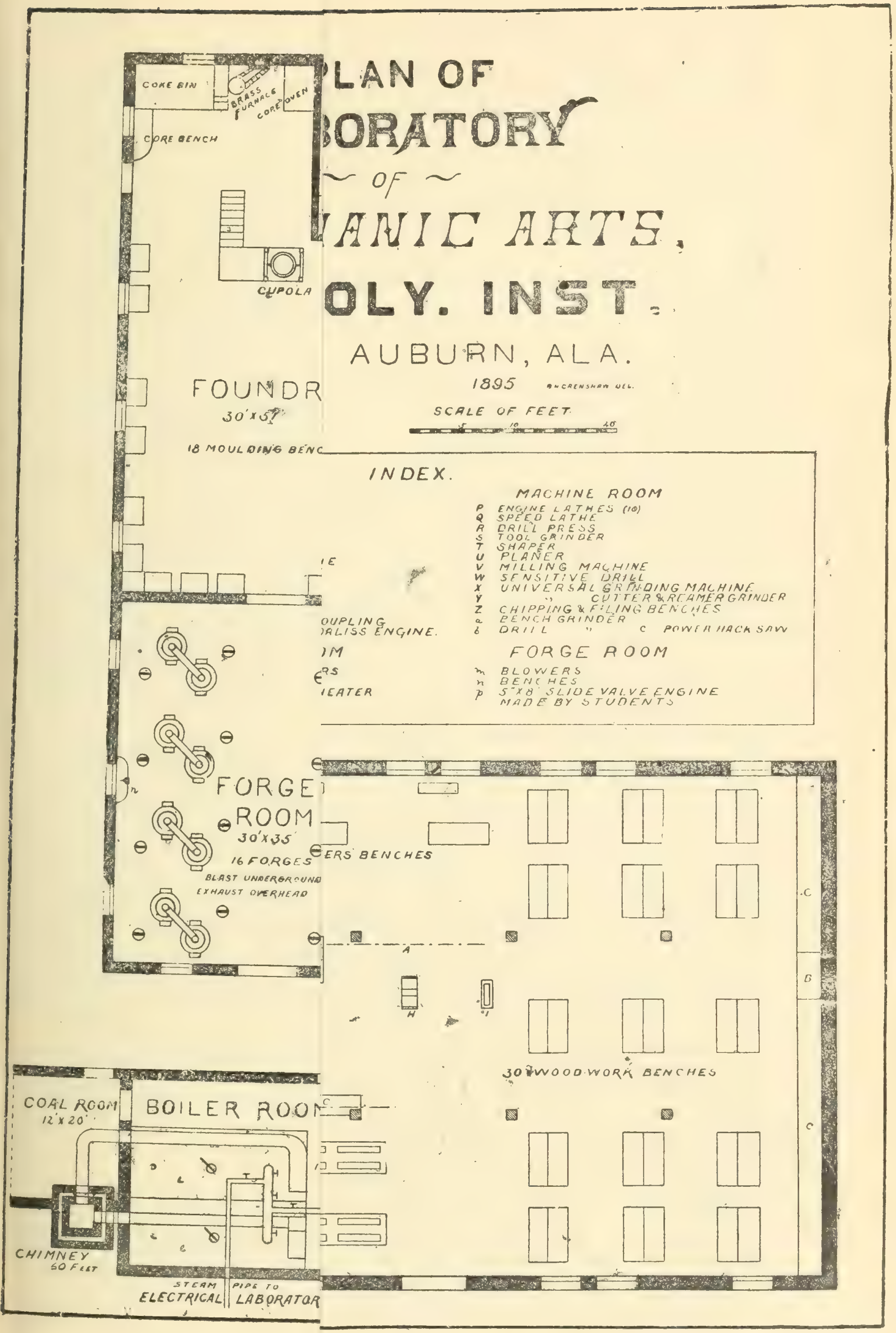
All work is done from blue prints and blackboard sketches. For the preliminary exercise work, special instruction sheets are prepared and given out to the student with the stock for the exercise. These sheets explain in detail each step in the process of producing the exercise, and are intended to supplement the individual instruction of the instructor. In the construction work it is the purpose to select some simple machine and build two or more of them on the interchangeable system. Jigs and templates are designed and built to accomplish this result as far as possible. A system of time keeping is in force in the shop. At the end of the week, each student makes out his time card, describing the work he has done during the week and giving the number of hours spent on each job.

MECHANICAL ENGINEERING.

JUNIOR YEAR.

Kinematics of Machinery.—Three recitations per week during the first term are devoted to this subject. Under this head machines are analyzed and their elementary combinations of mechanism studied. The communication of motion by gear wheels, belts, cams, screws, and link work, the different ways of obtaining definite velocity ratios and definite changes of velocity, parallel motions and quick return motion, as well as the designing of trains of mechanism for various purposes, together with the theoretical forms of teeth for gear wheels to transmit the motion through these trains, are investigated under this subject.

Elementary Mechanics.—Three hours per week for the second term are devoted to this subject. Under it the funda-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BOILER ROOM
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STEAM PIPE TO
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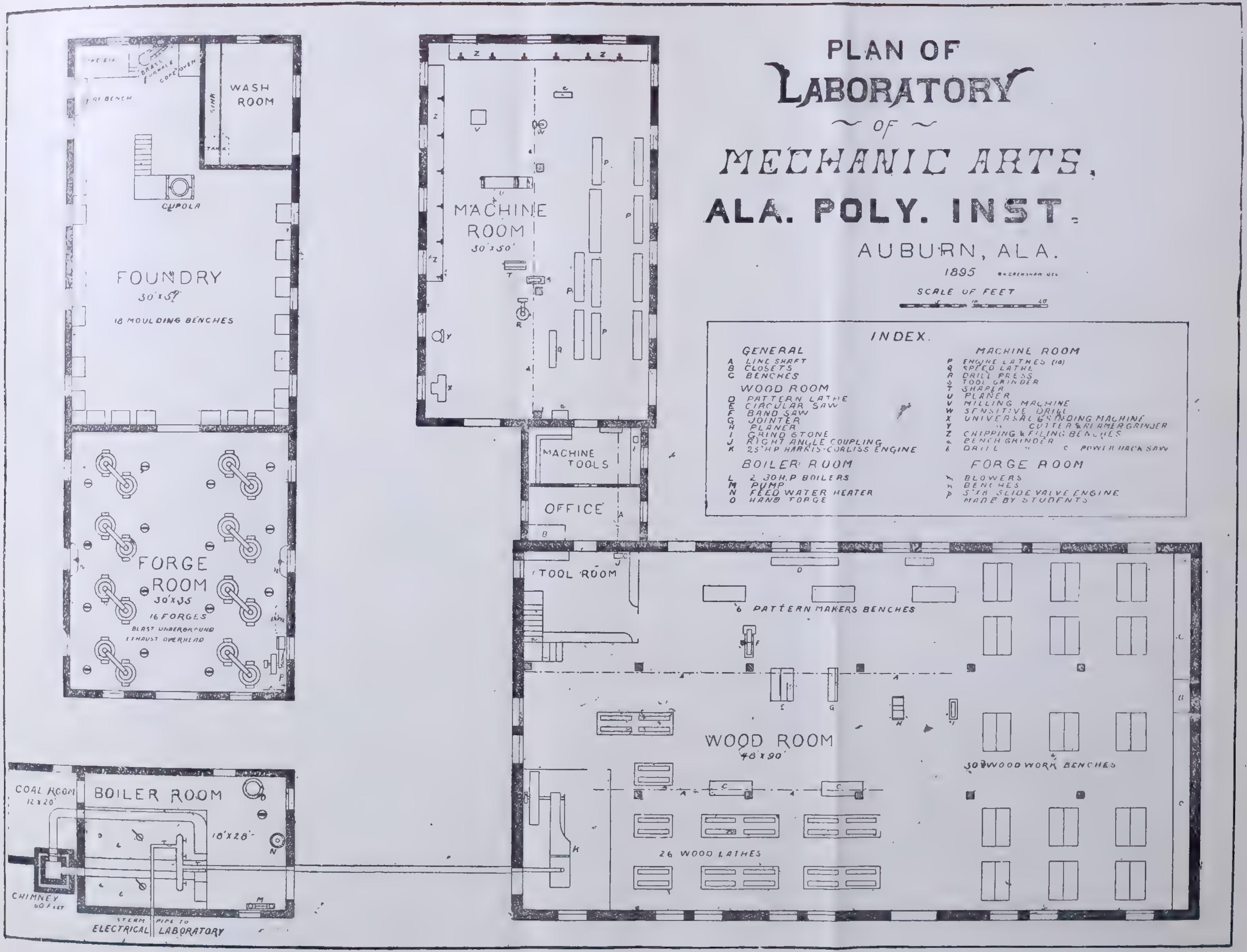

PLAN OF
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# MECHANIC ARTS,
# ALA. POLY. INST.

AUBURN, ALA.
1895 B. H. CRENSHAW DEL.

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X	UNIVERSAL GRINDING MACHINE
Y	" CUTTER & REAMER GRINDER
Z	CHIPPING & FILING BENCHES
a	BENCH GRINDER
b	DRILL " c POWER HACK SAW

FORGE ROOM

m	BLOWERS
n	BENCHES
p	5"x8" SLIDE VALVE ENGINE MADE BY STUDENTS

mental laws of mechanical science are studied, with special attention to their practical applications to engineering work.

Mechanical Engineering of Power Plants.—The third term, three hours per week is given to the study of the practical applications of steam machinery. It is believed that a thorough knowledge of the apparatus in actual practical use is the best preparation a student can have for the study of the theory, and to that end, the different types of engines, boilers, pumps, condensers, and other auxiliary apparatus are taken up and studied in detail, and the advantages and disadvantages of each discussed. Extensive files of manufacturers' catalogues are kept and the technical papers and magazines in the library are freely used in order to keep in touch with the latest and best practice in engineering work.

Practical Mechanics.—One hour per week during the year is given to recitations and lectures on machine shop work. The construction, use and limitations of the various machine tools, the forms of cutting tools and methods of grinding them, the form and use of jigs and gauges, are studied, together with instruction in machine shop management, time and cost keeping.

Mechanical Drawing.—Four hours a week during the year are devoted to drawing. During the first part of the year instruction is given in the conventional methods of representing standard materials, and in the design of fastenings and machine parts. Later on scale drawings of simple machines are made from dimensioned sketches which each student makes for himself from the actual machine. Free hand lettering, tracing, and blue printing receive attention, and all the instruction is intended to familiarize the student with modern drawing office methods.

Laboratory Work.—The laboratory work of the junior year is that described under the third year of the course in Mechanics Arts.

TEXT-BOOKS.

Barr's Kinematics of Machinery, Wood's Elementary Mechanics, Hutton's Mechanical Engineering of Power Plants, Rose's Practical Machinist, and Reid's Elementary Machine Design.

SENIOR YEAR.

Mechanical Engineering of Power Plants.—The first term, five hours per week is given to a continuation of the junior class work under the same head. The text book work will be supplemented by lectures on the structure and form of steam boilers, best methods of setting and handling them and preventing undue wear and tear. Lectures on some of the kinematical features of the steam engine, together with a study of valve gears, will be offered as part of the course.

Materials of Machines.—The first term, two hours per week, is devoted to this subject. Special attention is given to the manufacture of iron and steel, and to the strength of these metals under various conditions. The crude materials which go into the blast furnace and the by-products which come out also receive attention.

Thermodynamics.—The second and third terms, five hours per week are given to this subject. It is first studied from the ideal standpoint, and later the applications are made to hot air engines, gas and gasoline engines, and steam engines, and also to air compressors and refrigerating machines. Graphical methods are used in preference to mathematical ones when they can be made to serve the purpose equally well, as it is believed that a more concrete conception can be presented to the mind of a student by a diagram than by a formula.

Indicator Practice.—The second term, two hours per week will be given to a study of the indicator and its uses as applied to steam engines, gas engines, air compressors, and refrigerating machines. Particular attention is given to the interpretation of the diagrams and to the methods of working them up.

Pumps and Pumping Machinery.—The third term, two hours per week will be given to the study of steam and power pumps as applied to boiler feeding, water works and irrigation purposes. The instruction will be given by lectures for the most part, and the standard types, together with the conditions under which each type will give the most satisfactory service, are studied.

Machine Design.—The subject of machine design is made a continuation of the junior course and runs throughout the year, two hours a week. The general plan of the work follows the text-book used, and such additional exercises are given as are found desirable. The strength and proportion of joints, fastenings, and machine details, are studied. Problems are given, the dimensions worked out and the drawings made under the direction and criticism of the instructor. It is the purpose of the course, as far as time will permit, to prepare students for practical drawing room work.

Laboratory Work.—The students are not only taught how to calibrate and use the different instruments, but they are brought in contact with engineering appliances under practical working conditions. Thoroughness of work is sought rather than the performance of a large number of experiments.

The following course has been arranged:

Calibration of steam gauge; calibration of indicator spring; calibration of thermometer; calibration of scales; calorimeter tests with separating and throttling calorimeters; boiler test; efficiency test of engine with brake and indicator power measurement; test of hot air pumping engine; test of gasoline engine; efficiency and duty test of steam pump; transverse, compressional, and tensional tests of cast iron, wrought iron, steel and wood, in which are observed the limit of elasticity, the ultimate breaking strength, and the modulus of elasticity.

TEXT-BOOKS.

Hutton's Mechanical Engineering of Power Plants, Smith's Materials of Machines, Hutton's Heat and Heat Engines, Peabody's Manual of the Steam Engine Indicator, Reid's Machine Design.

POST GRADUATE COURSE.

Considerable latitude is allowed in the selection of post graduate work, and the course is arranged each year to suit the requirements of the class. One of the following lines of work is recommended: Hydraulics, Thermodynamics, or Power Plant Engineering. The course selected is accompanied by suitable laboratory work.

AGRICULTURE.

PROFESSOR DUGGAR.

INSTRUCTOR JONES.

ASSISTANT BILLINGSLEY.

By a re-arrangement of the four-year course of study, taking effect in September, 1903, the time devoted to agriculture is increased from six to nine terms. The efficiency of the agriculture course will be greatly increased by this change, as well as by the extension of the time devoted to horticulture, and by the increased facilities for instruction in animal industry, which are expected to be provided at an early date.

Five terms are devoted to soils, crops and other portions of the subject of general agriculture and four terms to animal industry.

Instruction in agriculture is given by means of lectures, text-books, bulletins of the agricultural experiment stations, and practical work in field, barn, and dairy.

The study of agriculture begins with the freshman class in the third term, and occupies three terms of the sophomore year, two terms of the junior year, and will hereafter extend through three terms of the senior year.

The time devoted to this study in the lecture room is two hours per week with each class, in addition to two or four hours of laboratory work per week in barn, field, dairy, or library.

The subjects studied by the freshman class are the breeds of horses, cattle, sheep and hogs—their characteristics, uses, management and adaptability to the South.

The first term of the sophomore year is devoted to dairying, which is taught by practical work in the dairy—butter making, cheese making, determination of fat in milk by the Babcock method, etc.,—as well as by instruction in the lecture room.

In the second term of the sophomore year the following subjects are studied: Soils—chemical and physical properties, defects, and means of improvement; characteristics of the principal soils of Alabama and the special adaptability of each to particular crops; terracing; objects and methods of preparation and cultivation of the soil; fertilizers; and the renovation of poor soils. Practical work in judging the principal breeds

BOTANICAL LABORATORY.

of beef and dairy cattle, hogs, and sheep occupies four hours per week throughout the term.

During the third term the student studies the grasses, leguminous, and other forage plants adapted to the different soils of this State. Instruction in the choice of suitable plants, recognition of the most important forage plants and of their seeds, preparation of meadows and pastures, and principles and practice of hay-making, is both by lectures and by field work and observation of experiments.

In the junior year the topics of the first term are the staple crops of the South, including cotton, corn, oats, wheat, tobacco and rice. The more important crops are treated with reference to varieties, soil and fertilizer requirements, methods of planting and cultivation and uses. Plant breeding, with the special aim of effecting improvement in existing varieties of cotton, corn, and cowpeas, by means of systematic selection and crossing, will be taught both in the lecture room and in the field. Students make observations and notes on and assist in harvesting the large collections of varieties of cotton, corn, cowpeas, etc., grow on the Experiment Station Farm.

During the second term the topic is the feeding of animals and the compounding of rations.

The seniors will hereafter study the first term drainage, irrigation, farm implements and farm buildings; during the second term the principles of animal breeding; and during the third term farm management, including different systems of farming and stock growing, rotation of crops, care of farm manures, choice and methods of applying commercial fertilizers for different soils and crops; markets and results of experiments.

As far as limited time allows, attention is directed to agricultural literature now accumulating so rapidly in this and in foreign countries, to the end that in future years the student may know where and how to seek the information that he may need.

Applicants for post-graduate work in agriculture will be assigned special research work and aided in the line of investigation deemed best for each individual student.

FACILITIES FOR INSTRUCTION.

Students who take the agricultural course have the benefit of the numerous field experiments continually in progress on the Experiment Station Farm. The dairy building is equipped for work in making butter and cheese on a small scale and for testing milk.

The specimens of live stock brought together for the special purpose of students' use in the study of breeds and in practice in judging animals consist of representatives of Angus, Shorthorn, Red Polled, and Jersey cattle; Berkshire and Poland China hogs; and Dorset, Southdown, Shropshire, common and graded sheep. Important additions to the livestock are planned.

TEXT AND REFERENCE BOOKS.

Horses, Cattle, Sheep and Swine, by Curtis; The Study of Breeds, by Shaw; Sheep, by Wrightson; The Domestic Sheep, by Stewart; Milk and Its Products, by Wing; Milk Testing, by Farrington & Woll; Soils and Crops on the Farm, Morrow & Hunt; Forage Plants, by Shaw; Soiling-Crops and the Silo, by Shaw; The Fertility of the Soil, by Roberts; Corn Culture, by Plumb; Irrigation and Drainage, by King; Irrigation Farming, by Wilcox; Physics of Agriculture, by King; Manures and the Principles of Manuring, by Aikman; Drainage for Profit and Health, by Waring; Agriculture in Some of Its Relations with Chemistry, by Storer; The Feeding of Animals, by Jordan; Feeds and Feeding, by Henry; Animal Breeding, by Shaw; Hand-book of Experiment Station Work; and selected publications of the various divisions of the U. S. Department of Agriculture, and of the Agricultural Experiment Stations.

TWO YEAR COURSE IN AGRICULTURE.

All persons interested in agriculture are advised to take the full four-year course, which besides affording a well rounded general education, should fit them for farming or stock raising, or for special work in agricultural journalism, or for positions in the experiment stations and colleges and in the National Department of Agriculture.

However, those who are able to spend only two years at college may take the two-years' course in agriculture and thus de-

LABORATORY OF BIOLOGY.

vote practically all of their time to agriculture and the closely related branches of study. In the two-year course the studies are so arranged that the nine courses in general agriculture and animal industry, together with work in other departments of applied science, may be completed during two sessions.

BOTANY AND BIOLOGY.

PROFESSOR WILCOX.

ASSISTANT ATKINSON.

1. ELEMENTARY BOTANY. This course offers a general introduction to the science of botany and is therefore a prerequisite of all other courses in botany. The general principles of morphology and classification will be developed from the standpoint of physiology and ecology. In the laboratory the student will become acquainted with the general morphology and physiology of the spermatophytes and of some of the most important facts of ecology.

LECTURES AND RECITATIONS. Three hours per week during the spring term of the Sophomore year.

LABORATORY WORK. Four hours per week.

2. GENERAL MORPHOLOGY. This course will be devoted to the study in the laboratory of carefully selected representatives of the principal groups of plants. The lectures and recitations will supplement the laboratory work and fill up such gaps in the student's knowledge as are incident to the study of isolated types. In all cases where possible special attention will be devoted to plants of economic importance, in either agriculture or medicine.

LECTURES AND RECITATIONS: Two hours per week during the fall and winter terms.

LABORATORY WORK: Four hours per week for students in the long and short course in pharmacy, but only two hours for other students.

3. COMPARATIVE ANATOMY OF THE SPERMATOPHYTES. A thorough study of the structure and activities of the plant cell will be followed by an examination of the typical tissues with special reference to their function. Students are required to become acquainted with the general methods of botanical microtechnique, including the killing, fixing, imbedding, sectioning, staining, mounting and drawing of all the tissues examined. Students in pharmacy will devote special attention to the study of the structure of plants employed in medicine while other students will give more attention to those matters that will be of the greatest value to them in the subsequent courses in the subject.

LECTURES AND RECITATIONS. Two hours per week during the spring term.

LABORATORY WORK: Four hours per week for students in the pharmacy courses, but only two hours for other students.

4. PHYTOPHYSIOLOGY. This is a course of carefully selected experiments, to be performed by each student, supplemented by selected readings, conferences and lectures upon certain subjects. It will be the aim of this course to develop a good, general knowledge of the most important functions of seed-plants, such as absorption, photosynthetic assimilation of carbon-dioxide, transpiration, respiration, etc.

LECTURES AND RECITATIONS: Two hours per week during the fall and winter terms of the senior year.

LABORATORY WORK: Four hours per week.

5. PHYTOPATHOLOGY. The aim of this course is to present a broad and comprehensive view of the subject. A thorough study will be made of the principal diseases due to parasitic fungi, but not to the exclusion of diseases produced by unfavorable surroundings and various inorganic factors.

LECTURES AND RECITATIONS: Two hours per week during the spring term of the senior year.

LABORATORY WORK: Four hours per week.

6. BOTANICAL SEMINAR. It is expected that meetings will be held twice per month at which the results of the latest researches in various languages will be presented and informally

discussed. The seminar will be open to all juniors, seniors and post graduates taking work in this department and the meetings will be held at some time convenient to all who wish to take part.

7. Research and Thesis Work.—The following lines of work are open to students during this year:

(1) Comparative embryology of spermatophytes.
(2) Ecology and ecological anatomy.
(3) Physiology and morphogenesis.
(4) Advanced plant physiology.
(5) Advanced cytology.
(6) Forestry or plant industry.
(7) Plant breeding or biometry.

It is expected that seniors who do their thesis work in this department will select a subject in one of these groups, and that the results of the research will be presented as a thesis for publication.

PHYSIOLOGY AND VETERINARY SCIENCE.

PROFESSOR CARY.

INSTRUCTOR MATTHEWS.

The sophomore class studies human anatomy, physiology and hygiene during the entire college year.

It is the aim of the department to give the students practical and real knowledge of the gross anatomy and functions of the various parts of the human body. Due attention is given, also, to the laws of health—the conditions most favorable to a continuous healthy action of the organs of the human body.

Instruction is given by lectures and by text books supplemented by blackboard drawings, charts, models of organs, a human skeleton, and by dissections of some of the smaller animals (dog, cat, etc.)

Huxley's Physiology is used as a text and reference book, and several other works on anatomy, physiology and hygiene may be consulted in the college library.

VETERINARY SCIENCE AND ART.

Students in the agricultural and chemical course of study, during the entire junior and senior years, devote to this work two hours per week in the class room and three hours per week at practical clinics. Instruction in veterinary science and art is given by lectures.

The lectures are arranged with special reference to the students who are interested in horses or other domestic animals; also to those students who contemplate studying human or veterinary medicine. While it is not the aim to give a complete course in veterinary medicine, we attempt to present the general principles of comparative medicine with such special applications as are adapted to the conditions and wants of the students.

Special attention is given to the exterior anatomy of the horse, while comparative anatomy is presented mainly in connection with the study of the diseases of the different apparatus of the horse or other domestic animals.

Special students in this department study comparative anatomy and have practical dissection from 6 to 15 hours per week during the entire year.

Lameness in the horse, minor surgery, the actions and uses of the most common medicines, the principles and practices of comparative medicine, and the ways of protecting the health of domestic animals, are considered in as plain and practical manner as the time allotted to each subject will permit. Post-mortem examination and the dissection of domestic animals are used as object lessons in the study of general pathology and anatomy.

To the post-graduate student this department furnishes work in histology, pathology, bacteriology, meat and milk inspection. This work gives students who contemplate studying medicine excellent preparatory work along that line. Such students may devote one-half their time to work in this department with the approval of the Faculty.

Histology includes methods of injecting small animals, collecting, fixing, hardening, embedding, section cutting, mounting, staining, examining under the microscope, drawing and describing the different tissues.

Pathology is studied in text and reference books and morbid histology embraces naked eye and microscope examinations of diseased tissues in the laboratory. Quite a collection of diseased tissues and animal parasites is found in connection with the laboratory.

The laboratory is well fitted for the study of bacteriology. Bacteriological analysis of water, milk, sputum, pus, diseased tissues, and of soils can be made. All of the practical operations in the preparation of culture, media, sterilization, inoculations of small animals, staining, microscopical examinations, may be learned. In the laboratory are three Bausch & Lomb and two Winkel microscopes, each of which is supplied with oil immersion objectives, two oculars, Abbe condenser, and iris diaphragm. Sterilizers, autoclaves, incubators, and all the necessary apparatus required in bacteriological work are to be found in the laboratory.

The department of physiology and veterinary science is now located by itself in a building which consists of a two-story portion containing four laboratory rooms on the second floor and a lecture room, museum and office on the lower floor and a one-story part which contains an operating room.

The building is supplied with water and gas and the laboratory is now equipped for work. The museum contains the skeletons of the horse, the ox, the sheep, and the hog, and a human skeleton. It also contains anatomical models of the various parts and organs of the human body, and models of many parts of the horse, the ox and the other domestic animals. It also contains a collection of pathological and anatomical specimens, and one of animal parasites.

The new veterinary hospital building contains five large box-stalls, four open single stalls, an office and a feed room on the lower floor; the upper floor is used as a storage room for hay, fodder, etc. The hospital is supplied with fresh water.

This department has a new brick cement dissecting room (16x32). It is supplied with an extensive north skylight, and with water and gas.

Every Saturday during the college year the department conducts a free clinic for the benefit of the students in veterinary science and art. Clinical cases have been various and numerous, giving the students opportunity to see and study many diseases and lameness and to become proficient in minor operations.

BACTERIOLOGY AND THERAPEUTICS.

The senior class in pharmacy devotes six hours per week during the first and second terms to class room and laboratory work in bacteriology; and three hours per week during the third term to therapeutics.

PHARMACY AND PHARMACOGNOSY.

PROFESSOR MILLER.

JUNIOR YEAR.

Pharmacy.—Class work, *three hours* a week. The different systems of weights and measures. Specific gravity. Pharmaceutical problems. The fundamental operations in pharmacy. Apparatus used in pharmaceutical processes. Discussion of all classes of pharmaceutical preparations.

Laboratory, *nine hours* a week. Preparation of official and non-official galenicals.

LABORATORY OF PHARMACY.

Pharmacognosy.—Class work with laboratory work, *four hours* a week. All official vegetable drugs studied with aid of simple and compound microscope.

SENIOR YEAR.

Pharmacy.—Class work, *five hours* a week. Official and non-official pharmaceutical chemicals, inorganic and organic, including the more important newer remedies. The prescription. Incompatibilities. Doses.

Laboratory, *twelve hours* a week. Preparation of official and non-official pharmaceutical chemicals, inorganic and organic. Pharmaceutical testing by pharmacopœial methods. Drug assaying, special attention given to compounding of prescriptions.

Pharmacognosy.—Class work, with laboratory work, *four hours* a week. Study of important non-official vegetable drugs; of drugs of animal origin; of adulterants and worthless drugs. Practical exercises in identification of pharmaceutical preparations and chemicals.

The practical work in pharmacy includes the manufacture of not less than three hundred pharmaceutical preparations and the compounding of not less than fifty prescriptions.

The work in pharmacognosy includes the study of more than 300 drugs, each of which the student is required to recognize by its physical and chemical properties, giving Latin name, common name, origin, habitat, constituents, medicinal action and dose.

HORTICULTURE.

PROFESSOR MACKINTOSH.

Instruction in horticulture is given in the junior year. Class work consists of lectures, text book work, reference reading and practice work in the greenhouse laboratory, gardens and orchards of the Experiment Station.

It is the aim to give considerable practice work so as to enable those taking the course to do the detail work in budding, grafting, making of cuttings, mixing spray materials and spraying, etc.

The subjects studied will be the growing of the various fruits and vegetables for home use and market, including methods of propagation, culture and fertilization of the soil, gathering and marketing, and the insect and fungous diseases, with best methods of controlling them.

Text-books to be announced later.

GEOLOGY AND MINERALOGY.

PROFESSOR ——————.*

This subject is studied in the senior class, and extends through the entire session. Special attention is given to the geology of Alabama, and many illustrations are drawn from the coal and iron fields and other natural deposits of minerals in the State. Mineral springs, the origin of ore deposits, and the geological relations of soils are carefully studied.

Mining Engineering.—Special instruction in metallurgy and practical geology is offered to students pursuing the post-graduate course in mining engineering.

The junior classes in civil and mining engineering, chemistry and metallurgy, study mineralogy through the entire session. This work consists of a thorough course in blow-pipe analysis of the ordinary minerals, and lectures upon crystallography, with instruction how to measure crystals and determine the physical constants of minerals. An effort is made to familiarize the student with all the economic ores and the rocks entering into the composition of soils.

FACILITIES FOR WORK.

The department is equipped with models of Mount Shasta, the earthquake of 1887 in Japan, glass crystals for teaching crystallography; charts and maps of the geology of America and Europe; Colt's lantern, complete with oil, oxy-hydrogen and automatic elec-

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*To be elected.

CORPS OF CADETS.

tric lamps; a large assortment of fine lantern slides representing geological formations in this country and abroad; well equipped mineralogical laboratory for thirty students, supplied with a collection of representative minerals, and models of crystals.

According to law, the State Geologist must furnish the Geological Museum of the Institute with duplicates of all mineral specimens collected in Alabama.

MILITARY SCIENCE AND TACTICS.

COL. B. S. PATRICK, COMMANDANT.

Military science and tactics are required by law to be taught in this institution. The law is faithfully carried out by imparting to each student, not physically incapacitated to bear arms, practical instruction in the school of the soldier, of the company and of the battalion in close and extended order, also in guard mountings, inspections, dress parades, reviews, etc.

Under section 1225, U. S. Revised Statutes, the College is provided with modern cadet rifles and accoutrements.

The following uniform of standard cadet gray cloth has been prescribed for dress: Coat and trousers as worn for fatigue at West Point, with dark blue cadet cap. A neat and serviceable uniform can be obtained here at $15 to $16. This is less expensive than the usual clothing. All students are required to wear this uniform during the session.

The entire body of students is divided into companies. The officers are selected for military efficiency, good conduct and scholarship. The commissioned officers will be selected from either the senior or junior classes, and promotion will depend on merit and not wholly on seniority.

A band, composed of cadets, furnishes appropriate music at all reviews and parades, and on other special occasions.

A student who has once accepted an office cannot resign it except for reasons entirely satisfactory to the President and the Commandant. The resignation of an office will usually not be considered without first placing all the circumstances of the case before his parent or guardian.

Candidates for appointment or promotion may be required to stand an examination. Moral fitness, including demerits, will be considered.

Examinations will be conducted by a board of officers, to be composed of the Commandant of Cadets and two commissioned officers, to be designated by him. The proceedings of the board are subject to revision and approval by the President of the College.

Each company is officered by one captain and two first lieutenants, one second lieutenant, and with a proper number of non-commissioned officers. The officers and non-commissioned officers are distinguished by appropriate insignia of rank. These appointments are confirmed by the President on nomination of the Commandant.

The junior class recites once a week in the United States Infantry Drill Regulations.

The senior class recites once a week in Wagner's Security and Information, and Manual of Guard Duty, U. S. Army.

On the graduation of each class the names of such students as have shown special aptitude for military service will be reported to the Adjutant-General of the U. S. army, and the names of the three most distinguished in military science and tactics will be inserted in the U. S. Army Register, and published in general orders from headquarters of the army.

CADET BAND.

The cadet band is a part of the military organization of the College. It takes part in the military and other exercises, and plays when its services are required.

Regular and individual instruction is given free of charge by the bandmaster. A text-book on general musical information is used in connection with the practical instruction.

A gold medal is given each year by the bandmaster to the member of the band who makes the best general record for the year. The presentation is made at Commencement.

MISCELLANEOUS.

GYMNASIUM AND ATHLETIC FIELD.

The gymnasium is situated at the west end of the athletic and drill grounds, and contains one room, 80x40 feet, with strong beams above for fastening the usual fixtures.

It is equipped with Spalding's gymnasium apparatus and is open to all students at stated hours, under the care of an officer.

The athletic field has a quarter-mile cinder track and ample space for football, baseball and general athletics.

DISCIPLINE.

The government of the College is administered by the President and Faculty in accordance with the code of laws and regulations enacted by the Trustees.

Attention to study and punctuality in attendance on recitations and all other duties, are required of every student. Students are prohibited from having in their possession arms or weapons not issued for the performance of military duty, and also from using or causing to be brought into the College limits, intoxicating liquors.

Students are not permitted to participate in any public entertainment, or game, without previously obtaining the consent of the Faculty.

No cadet will be permitted, without the approval of his parent or guardian, to take part in a public game of football; nor will permission be given for any athletic game to a student deficient in his studies.

MILITARY DRILL.

There are three regular military drills each week and all undergraduate students, not physically incapacitated to bear arms, are required to engage in these exercises; privates of the senior class are exempt.

The drills are short and the duty involves no hardships. The military drill is a health-giving exercise, and its good effects in the development of the *physique* and improvement of the carriage of the cadet are manifest.

RELIGIOUS SERVICES.

Religious services are held every morning in the chapel.

All students are required to attend these exercises, and also to attend the church of their choice at least once on Sunday.

Opportunities are also offered for attending Bible classes every Sunday.

YOUNG MEN'S CHRISTIAN ASSOCIATION.

This association is regularly organized and has a well furnished room on the first floor of the main building set apart for its exclusive use. Through its weekly meetings it exerts a wholesome Christian influence among the students.

Students are advised to unite with the association when they enter the Institute.

The ladies of the different churches in Auburn have recently formed an auxiliary association to the Y. M. C. A. of this Institute. Assisted by members of the Faculty, they will hold monthly a joint service of praise in the College chapel, and will provide lectures for the occasion.

They have also undertaken to build a special hall for the use of the Association, and will solicit subscriptions for that purpose.

The following are the officers:

Cicero Rudd	President.
George Dunglinson	Vice-President.
W. H. McEniry	Corresponding Secretary.
J. L. Murphy	Recording Secretary.
L. P. Hall	Treasurer.
F. B. Rutledge	Librarian.

LOCATION.

The Institute is situated in the town of Auburn, fifty-nine miles east of Montgomery, on the line of the Western Railroad.

The region is high and healthful, noted for its general good health and freedom from malaria, having an elevation of eight hundred and twenty-six feet above tide-water. By statute of the State the sale of spirituous liquors and keeping saloons of any kind are forbidden.

BOARDING.

The Institute has no barracks or dormitories, and the students board with families in the town of Auburn, and thus enjoy all the protecting and beneficial influence of the family circle.

REGULATIONS.

(1) Each student upon entering is required to sign his name in the matriculation book and pledge himself to obey the rules and regulations of the College.

(2) Every absence from recitation or examination is graded zero.

(3) When the term grade of a cadet is lowered by reason of absence for which satisfactory excuse can be rendered, a special term re-examination may be subsequently granted, and the grade made on the special re-examination alone is substituted for that previously received.

(4) Only sickness, as reported by the Surgeon, or absence by reason of family sickness, or official or collegiate business, will constitute a satisfactory excuse for granting a re-examination.

When a cadet is called away from college by his parents his zeroes for absence are not removed.

(5) The term grade of a student is the average of his daily sessional and term examination marks, found by giving due weight to the term examination.

(6) Privates of the senior class in full standing who are candidates for graduation may be excused by the President from all military drills, and also students over twenty-one years of age at the time of entering College that are permitted to devote their time to one special study, as chemistry, agriculture, or pharmacy, provided the time devoted to drill is spent by them in laboratory work.

No cadet can remain an officer who receives during the session more than seventy-five demerits.

DISTINCTIONS.

Distinctions are awarded in the different subjects of each class to those students whose grade for the entire year is above ninety per cent.

Certificates of distinction are awarded in public on Commencement day to those who obtain an average of 90 per cent. in all the prescribed studies of a regular class; and also to those who obtain three distinctions in the freshman class, four in the sophomore class, five in the junior class, and six in the senior class; provided they have satisfactorily passed all the regular examinations of that session, and have not received forty demerits during the year.

A distinction is not given in the senior class if the average grade in any one subject is less than 75 per cent.

HONORS.

Members of the senior class who attain distinction at the final examinations with an average grade, in the subjects required, of 95 per cent. will be published as

GRADUATES WITH HIGHEST HONOR.

Those who attain distinction with an average grade of 90 per cent. and less than 95 are published as

Graduates with Honor.

Those who attain less than 90 per cent. and more than 60 per cent. are published as *Graduates.*

Students of the classes lower than the senior, who attain distinction with an average grade in the required subjects of 95 per cent. are published in alphabetical order as having attained the *Highest Distinction.*

RECORDS AND CIRCULARS.

Daily records of the various exercises of the classes are kept by the officers of instruction.

At the close of each term and at regular intervals reports, giving the grade made by each student, are sent to the parent or guardian.

EXAMINATIONS.

Written examinations on the studies of the month are held by each professor during the months of October, February and April. Each examination occupies one hour.

At the end of each term written examinations, or written and oral, are held on the studies passed over during that term.

Special examinations are held only by order of the Faculty, and in no case will private examinations be permitted.

Students falling below the minimum grade at the final examinations, can be promoted to full standing in the next higher class only on satisfactory examinations at the opening of the next session.

It is required that every student who enters the College shall remain through the examinations at the end of the term. Leaves of absence and honorable discharges will, therefore, not be granted within three weeks of the examination, except for providential reasons.

SCHOLARSHIPS.

The following scholarships and prizes have been established:

THE WILLIAM LEROY BROUN MEMORIAL SCHOLARSHIP OF $170, established by the Alumni Society in memory of the late distinguished President of the Institute.

THE LIGON SCHOLARSHIP OF $170, established by Col. R. F. Ligon, Montgomery, Ala.

THE THOMAS SCHOLARSHIP OF $170, established by Judge William H. Thomas, Montgomery, Ala.

THE BALL SCHOLARSHIP OF $170, established by Mr. Fred S. Ball, Montgomery, Alabama.

THE DUNKLIN SCHOLARSHIP OF $600, established by Mr. and Mrs. J. C. Street, Anniston, Ala., in memory of Prof. J. T. Dunklin, formerly Professor of Latin in the Institute.

The scholarships enumerated above are loan scholarships, granted to worthy young men or women, to be returned after graduation. No interest is charged until one year after leaving college.

The above-named scholarships and ten other scholarships are administered by the Alumni Society. For information address Wm. O. Scroggs, Secretary.

PRIZES.

THE ORATORICAL PRIZE, medal to that member of the Junior class who composes and delivers the best oration on Junior Class day of Commencement.

1902, *W. W. Davis,* Mobile county.

THE ORATORICAL PRIZE for the Annual Inter-Literary Society Contest, February 22d.

1902, *J. R. Searcy,* Conecuh county.

SOPHOMORE MEDAL IN DECLAMATION for annual contest, May 1st.

1902, *John McDuffie,* Mobile county.

PRIZE FOR BEST DEBATER, a medal given annually by the Board of Trustees to the best debater in the Wirt and Websterian Literary Societies each.

A GOLD MEDAL, offered by Lewis Chapter of the Daughters of the American Revolution for the best historical paper by a young woman student, 1902, *Miss Emma Beall Culver,* Lee county.

A PRIZE OF FIFTY DOLLARS, offered by the Colonial Dames of Alabama, for the best historical paper on a colonial subject written by a young man student.

THE THOMAS ESSAY PRIZE, a gold medal offered by Judge William H. Thomas, of Montgomery, Ala., for the best written essay by any undergraduate student of the college. This essay must be written under the supervision of the department of English.

BATTALION MEDAL for best drilled soldier. 1902, *Geo. Dunglinson,* Talladega county.

PRIZE FOR BEST DRILLED COMPANY, a sword given by Board of Trustees. 1902, *J. E. D. Yonge,* Pensacola, Florida.

LIBRARY.

The Library occupies an elegant well-lighted room in the main building, and also three smaller adajcent rooms. It contains over 17,000 bound volumes, including valuable reference and scientific books, with select editions of standard authors, and others suitable for students, carefully and recently selected. It is kept open eight hours daily for the use of students as a reading rooom and is thus made an important educational feature.

MUSEUM.

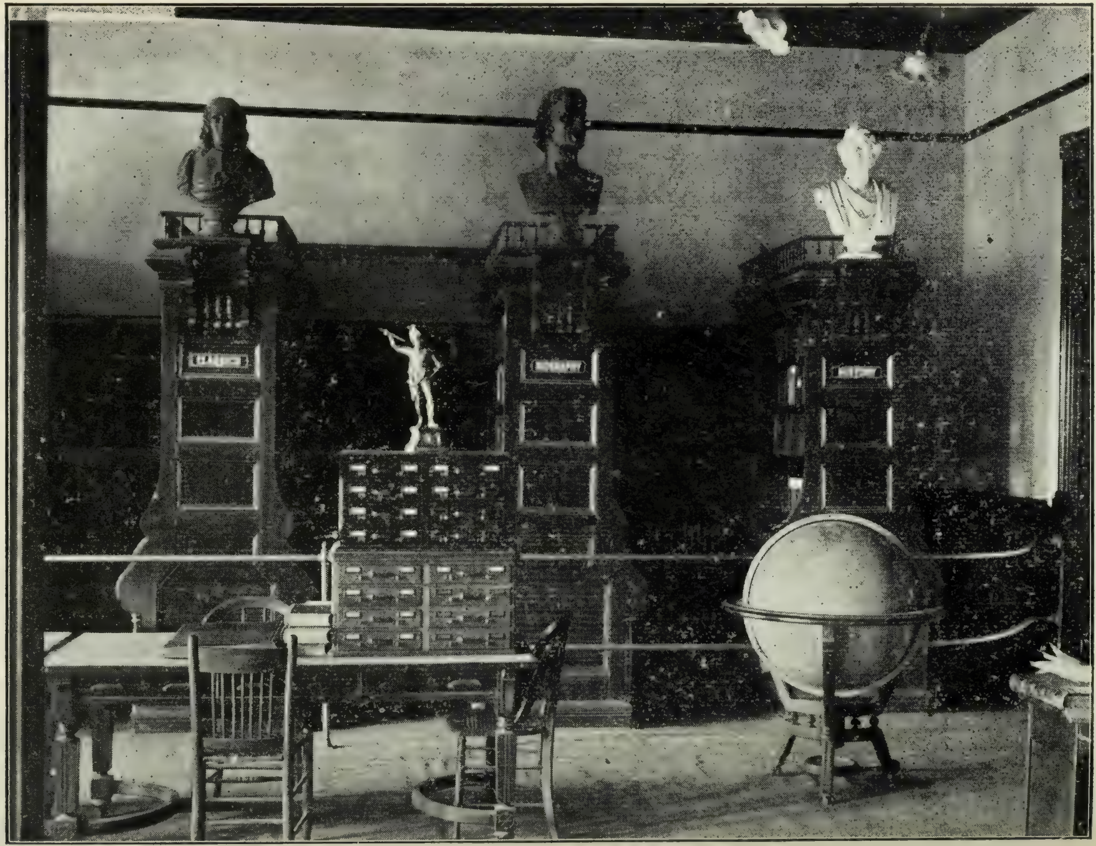
The Museum occupies a large room in the third story. It is provided with suitable cases and is equipped with valuable specimens and models of an instructive character.

BOARDING HOUSES.

For each house an inspector is appointed, whose duty it is to report those who, without permission, leave their rooms after "call to quarters," or are guilty of any violation of order. The report of the inspector is made to the Commandant on alternate days of the week.

Students, after selecting their boarding houses, are not permitted to make changes without obtaining permission from the President, and this permission is given only at the close of a term, except for special reasons.

Permission to board and lodge at separate houses will be granted only to seniors, to cadets twenty-one years of age, and to those who are on the "honor roll," except on special conditions.



GENERAL LIBRARY

EXPENSES.

There is no charge for tuition for a resident of Alabama.

Incidental fee, per session	$5.00
Library fee, per session	2.00
Surgeon's fee, per session	5.00
	$12.00

These fees are payable on matriculation. By order of the Trustees no fees can be remitted.

For students entering after January 1st, the fees for a half session only are required.

Board, including lodging, fuel and lights, is furnished at $12.50 to $15.00 per month.

For a non-resident of the State there is a charge for tuition of $20.00 per session, payable on matriculation, in addition to the annual fee of $12.00 payable by all students.

The necessary expenses for a session, not including uniforms or books, are for a resident of Alabama, as follows:

College fees	12.00	12.00
Board, lodging, fuel and lights	112.50	135.00
Washing	9.00	9.00
Total	$133.50	$156.00

By special arrangement with the College authorities, Mrs. M. L. Mitchell, Mrs. M. E. Howe and Mr. B. T. Blasingame will accommodate students with board, lodging, fuel, etc., for $9.50 per month.

By boarding at one of these houses the necessary expenses may be reduced to $106.50 per session. This estimate does not include the cost of the uniform, about $15.00, or of books, say from $5.00 to $15.00, or the laboratory fees in the higher classes, $5.00 or $10.00.

LABORATORY FEES.

For each student in the junior or senior laboratory in pharmacy, chemistry, or in electrical or mechanical engineering, a fee of $2.50 per session is required for each department. This fee is payable *on admission to the laboratory*, and is not remitted.

NON-RESIDENT STUDENTS.

Tuition for students, not residents of Alabama, is $20.00 per session, unless remitted by the Trustees to worthy students upon the recommendation of the Faculty.

The remission of this tuition fee to non-resident students will be granted in the form of a free scholarship for the succeeding year, to those who obtain a distinction the preceding year or who, by reason of merit, are deemed worthy.

This tuition for non-residents is remitted to sons of ministers of the gospel.

HONOR SCHOLARSHIPS.

The following non-resident students were granted, each by reason of special merit in conduct and scholarship during the session of 1901-1902, an honor scholarship, which exempted from tuition fees:

Hiram Victor Arnold	Florida.
Richard McCulloh	Louisiana.
James Henderson Childs	Georgia.
Heyman Hagedorn	Georgia.
Edward Owen Perry	Georgia.
Berner Leigh Shi	Georgia.
Sallie Fleming Ordway	Tennessee.
Dudley Chipley	Florida.

UNIFORM.

A uniform of cadet gray cloth is prescribed, which all undergraduate students are required to wear during the session. The uniforms are made by a contractor, of excellent cloth manufactured at the Charlottesville mill. This suit, including cap, costs at present $15.25. It is neat and serviceable, and less expensive than ordinary clothing.

CONTINGENT FEE.

A contingent fee of five dollars is required to be deposited by each student on matriculation, to cover any special or general damage to College property for which he may be liable. General damages are assessed on the body of students.

At the close of the session the whole of the contingent fee, or the unexpended balance, is refunded to the student.

AMOUNT OF DEPOSIT.

Fees to be paid on entrance:

Incidental fee	$5 00	
Library	2 00	
Surgeon	5 00	
Contingent fee	5 00	
Uniform	15 25	
For a resident of Alabama	$32 25	$32 25
Tuition non-resident		$20 00
For a non-resident		$52 25

Besides the above, the student should deposit with the Treasurer enough to pay for books, one month's board, incidentals, amounting to, say, $27.50. Hence, a resident of Alabama should deposit with the Treasurer $60.00; a non-resident, $75.00.

FUNDS OF STUDENTS.

Parents and guardians are advised to deposit with the Treasurer of the College all funds desired for sons, or wards, whether for regular charges of college fees or board, or for any other purpose. It is the duty of this officer to keep safely all funds placed in his hands, and to pay all expenses incurred by the students, including board, uniform, books, etc., when approved.

When funds are deposited checks are drawn on the Treasurer of the College by the cadet to pay his necessary expenses. These checks are paid only when officially approved. The approval is given only for necessary expenses, as stated in the catalogue, unless specially requested in writing by the parent.

The College cannot be held responsible for the expenses of a student, unless the funds are deposited with the Treasurer. No student should be permitted to have a large amount of pocket money, as it brings only trouble and encourages idleness.

THESIS.

Each applicant for a degree is required to write and submit to the Faculty a thesis, or oration, and read and deliver the same at Commencement, if required by the Faculty.

There may be presented, with the approval of the professor in charge, a carefully written report of special work done in a laboratory, showing independent investigation and discussion of some subject.

It must be given to the Professor of English by the first of May.

The subject must be submitted for approval by January 1st.

LITERARY SOCIETIES.

There are two literary societies connected with the College—the Wirt and the Websterian. Each has a hall in the main building.

These societies hold celebrations on the evenings of Thanksgiving Day and 22d of February. A gentleman, selected by the Faculty, is invited to deliver an address before the Literary Societies at Commencement.

To encourage the literary societies the Trustees have directed that a medal be awarded on Commencement Day to the member of each society who is both efficient and regular in attendance, and who is the best debater. The method of selection is determined by the Faculty.

EXERCISES IN ELOCUTION.

On every Saturday morning, immediately after chapel services, oratorical exercises in declamation and in original orations are conducted by the Professor of English, in the presence of the Faculty and students.

The *first and second terms* the students of the junior and sophomore classes are exercised in original orations and in declamations.

The *second and third terms* the members of the senior class read essays or deliver original orations.

SOCIETY OF THE ALUMNI.

The annual alumni oration is delivered by a member of the society in Langdon Hall, on Alumni Day, Tuesday of Commencement week.

Thomas D. Samford, '88, Opelika, Ala	President.
R. F. Ligon, '82, Montgomery, Ala	Vice-President.
William O. Scroggs, '99, Auburn, Ala	Secretary.

B. H. Crenshaw, '89, Auburn, Ala........................Treasurer.
J. Thomas Heflin, Montgomery, Ala...............Orator for 1903.

SURGEON.

The surgeon is required to be present at the College daily, to visit at their quarters the cadets that are reported sick, and to give all requisite medical attention without other charge than the regular surgeon's fee, paid on entering college.

ACADEMIC YEAR.

The academic year for 1903-1904 commences on Wednesday, 9th September, 1903, and ends on Wednesday, 8th June, 1904, which is Commencement Day.

It is divided into three terms. The first term extends from the opening of the session to the 22d December; the second term begins January 5th, and ends March 12th; the third term continues to the close of the session.

DONATIONS TO THE LIBRARY.

U. S. Government.—Public Documents, 160 volumes.

Mrs. E. L. Connally, Atlanta, Ga.—The History of Georgia, (1850-81). By I. W. Avery. The Life and Times of Joseph E. Brown. By Herbert Fielder.

George W. Duncan, Auburn, Ala.—A History of Alabama. By William Garrott Brown.

G. H. Smyth.—The Life of Henry Bradley Plant. By G. H. Smyth.

Thomas M. Owen, Montgomery, Ala.—Alabama: Official and Statistical Register for 1903.

Abraham G. Jennings.—The Earth and the World—How Formed? By Abraham G. Jennings.

Prof. R. S. Mackintosh, Auburn, Ala.—Rural School Agriculture. Prepared by Prof. W. M. Hays, St. Anthony Park, Minn.

DONATIONS TO COLLEGE MUSEUM.

By *Mr. St. John*, ashes from Mt. Pelee, brick from old Spanish fort at Mobile; by *Mr. H. P. Powell*, collection of crude rubber; by *Mr. J. P. Paterson*, collection of fossils, Indian arrow heads; by *Mr. Edwin L. Reese*, collection of Indian tools; by *Mrs. Matthews*, fossils from Florida; by *Mr. J. H. Hardy*, Indian arrow heads; by *Mrs. Milne*, Scottish heather; by *J. A. Beckham*, shells and cartridges from battlefield of San Juan; by *Mr. Paul Rigney*, snake; by *Mr. O. D. Alsobrook*, head of soft shell turtle; by *H. P. Powell*, collection of mica from North Carolina, India and Canada; by *Mr. R. E. Collier*, collection of copper, silver and lead ores, rock salt and fire clay, also laterite from Utah; by *Dr. R. C. Persons*, ashes from Mt. Pelee, volcanic mud from same source; by *Mr. Philip Avary*, double pineapple.

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03/04

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THE JOHN CRERAR LIBRARY

THE BULLETIN OF THE

ALABAMA POLYTECHNIC INSTITUTE

AUBURN

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1903-4

ISSUED BY THE
INSTITUTE QUARTERLY
JUNE, 1904

Application made for entry at Post Office, Auburn, Ala., as Second-Class Matter

CALENDAR 1904-1905.

Session Begins	Wednesday, Sept. 7, 1904.
Examination for Admission	Wednesday, Sept. 7, 1904.
First Term Begins	Wednesday, Sept. 7, 1904.
Literary Society Celebration—Thanksgiving Day	Nov. 24, 1904.
First Term Ends	Friday, Dec. 23, 1904.
Second Term Begins	Wednesday, Jan. 4, 1905.
Literary Society Celebration	Wednesday, Feb. 22, 1905.
Senior Class Exercises	Wednesday, Feb. 22, 1905.
Second Term Ends	Saturday, March 11, 1905.
Third Term Begins	Monday, March 13, 1905.
Senior Thesis Reported	Saturday, April 29, 1905.
Sophomore Class Exercises	Monday, May 1, 1905.
Field Day	Monday, May 1, 1905.
Final Examination Begins	Saturday, May 20, 1905.
Commencement Sermon	Sunday, June 4, 1905.
Annual Meeting of Trustees	Monday, June 5, 1905.
Military Exercises, 4 P. M.	Monday, June 5, 1905.
Junior Class Celebration, 8 P. M.	Monday, June 5, 1905.
Alumni Day	Tuesday, June 6, 1905.
Military Exercises, 5 P. M.	Tuesday, June 6, 1905.
Address before Literary Societies, 8 P. M.	Tuesday, June 6, 1905.
COMMENCEMENT DAY	Wednesday, June 7, 1905.

MAIN BUILDING,
ALABAMA
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CATALOGUE

OF THE

ALABAMA POLYTECHNIC INSTITUTE

STATE COLLEGE

FOR THE

BENEFIT OF AGRICULTURE AND THE MECHANIC ARTS

AUBURN, ALABAMA.

1904

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ISAAC W. HILL, Superintendent of Education ....*Ex-Officio.*

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TERM EXPIRES, 1907.

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N. D. Denson....................................LaFayette, Ala.
J. A. Bilbro..Gadsden, Ala.

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Committee on Public Lectures,
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Committee on Library,
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Committee on Athletics,
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Thomas Bragg, M. S.	Assistant Chemist.
C. M. Floyd	Superintendent of Farm.
Jesse M. Jones, B. S.	Assistant in Animal Husbandry.
H. O. Sargent, M. S.	Assistant Horticulturist.

OFFICER IN CHARGE OF FARMERS' INSTITUTES.

Dr. C. A. Cary.

The Institute is a distinctive school of Science, and its applications; being also the State College for the benefit of Agriculture and the Mechanic Arts, established by the State in 1872 by endowing it with the land-grant appropriation made by the United States Congress in 1862.

The leading object of the Institute, in conformity with the act of Congress and the acts of the State Legislature, is to teach the principles and applications of science.

In its course of instruction it gives prominence to the sciences and their applications, especially to those that relate to agriculture and the mechanic arts; and at the same time the discipline and liberal education obtained by the study of language and other sciences are not neglected.

All students are required to study the English language. The Latin, French and German languages are also taught, and opportunity for their study is offered to students in any course.

The special and technical instruction given is thus based on a sound, general education.

In its different courses of education, work of great value to the youth of the State is accomplished by fitting them by a thorough science-discipline, in which manual training in the lower classes is made a prominent feature, for the successful and honorable performance of the responsible duties of life.

While every attention is given to the mental discipline of the students in endeavoring to train them to habits of accurate scientific thought, and thus to qualify them for the duties of life, their moral and Christian training will always constitute the prominent care and thought of the Faculty. The Institute thus endeavors to educate as well as instruct, to form character as well as give information of value.

LABORATORIES AND FACILITIES FOR INSTRUCTION.

The Institute now possesses facilities for giving laboratory instruction in applied science in the following departments.

I. IN AGRICULTURE.

The farm contains 304 acres, and is supplied with illustrative specimens of stock of select varieties.

The agricultural experiment station, established in connection with the College, where experiments and scientific investigations relating to agriculture are daily made, affords unusual opportunities to students to become familiar with agriculture, its defects and remedies.

The students of agriculture accompany the professor in the field, garden, conservatory, stock-yard, etc., where lectures are delivered in the presence of the objects discussed, and during the year exercises in practical agriculture of an educational character are given the students who enter upon this course of study.

II. IN MECHANIC ARTS.

The instruction in shop work is used as an auxiliary in technical education, and as a school of manual training in the arts that constitute the foundation of most industrial pursuits. The work performed by the students is instructive in character, and is intended to give the greatest amount of instruction in principles with the least repetition of operations, and the smallest consumption of time. The work is executed from drawings, and the instructor in charge of the classes makes the lesson before the class, or gives such specific directions as may be necessary to enable the student to make it. This is supplemented by individual instruction.

All students in the Sub-Freshman, Freshman, and Sophomore classes take this shop work, three periods a week, each period being two hours long. The purpose is not to teach a trade, but to train the eye, the hand, and the mind to more perfect co-operation, a training which will be of value in any pursuit of life. This training involves the principles at the foundation of all trades, and is, therefore, of equal value to a student who wishes afterwards to learn a trade.

Three-phase electric motors are used for driving the different shops, the motors receiving current from the large alternator in the dynamo room. The wood department is located in a room 90x50 feet, and is provided with a surface planer, a combination circular saw, a band saw, a buzz planer, a pattern-maker's lathe, a grindstone, twenty-four wood turning lathes, each with a set of wood turning tools, and thirty benches for carpenter work, with the necessary tools. Special tools for occasional use are kept in a tool room for the purpose, and in addition to the regular carpenter tools in the benches, each student is supplied with a set of chisels and plane irons with a locker to keep them in, and is held responsible for their care and condition.

The forge shop is equipped with twenty-four down draft forges, with anvils, hammers, sledges, and other tools necessary for blacksmith work, including a punch and shear for cutting and punching iron, and a blacksmith drill. The blast is supplied by a blower which is also used for supplying the foundry cupola with blast. The smoke from the forges is removed through underground passages by a 60-inch exhaust fan, and discharged into the chimney.

The foundry is equipped with a 23-inch Colliau cupola, having a melting capacity of 2,000 pounds of iron per hour, the necessary molding tools for bench and floor work, benches. a core oven, ladles, molding flasks, a foundry crane, etc. There is also a brass furnace with crucibles, crucible tongs and the appliances necessary for making brass castings.

The machine shop is a room 30x100 feet, and is equipped with nine 14-inch, two 16-inch, and one 18-inch engine lathes, one 10-inch speed lathe, a 20-inch drill press, a 10-inch sensitive drill, a 16-inch shaper, two iron planers, one 22-inch by 5-feet and the other 26-inch by 6-feet, a back geared universal milling machine with vertical milling attachment, a water tool grinder, a bench grinder, a universal grinding machine, a universal cutter and reamer grinder, a twist drill grinder, and a power hack saw. Three of the engine lathes have compound rests, three have taper attachments, and one is fitted with a turret and a large number of special tools and fixtures which practically convert it into a manufacturing lathe, and serve to illustrate the methods of manufacture by duplicate parts.

For chipping and filing, eighteen benches are fitted with vises and each student is supplied with hammer, chisels, files, and such other tools as he may need, and a locker in which to keep them. A gasoline engine is installed in one end of the shop, and is used for driving at times when the steam plant is not running.

The tool room is supplied with general machinist tools, such as chucks, drills, reamers, taps, dies, gauges, jigs, and special tools. A convenient room is supplied with lockers for keeping clothes, and basins supplied with hot and cold water for the use of the students. The different shops are equipped with electric lamps, and current is furnished when necessary.

III. IN PRACTICAL CHEMISTRY.

The chemical laboratory is supplied with modern apparatus, and in its equipment affords excellent facilities for instruction in practical chemistry and for investigation.

The investigations that are undertaken in this laboratory by scientific experts, in connection with the work of the agricultural experiment station, are of especial value to advanced students, and afford them unusual opportunities to learn the methods of scientific research.

The building contains a large general laboratory that accommodates sixty students, a special laboratory for Seniors that will accommodate thirty students, a lecture room with a capacity for one hundred seats, and nine other rooms, all appropriated to instruction and research in chemistry.

IV. IN ELECTRICAL ENGINEERING.

The electrical laboratory is well equipped with modern appliances for instruction in electrical engineering. It occupies three large rooms in the basement, and is equipped with many instruments of precision.

In addition to resistance boxes, bridges, condensers, galvanometers, dynamometers, wattmeters, photometers, and other laboratory instruments, the department is supplied with representatives of most of the types of commercial electrical instruments from foreign and domestic makers.

The laboratory is also equipped with apparatus for making breakdown tests of insulating materials, up to 30,000 volts, also with spectroscopic apparatus for testing the quality of arc light carbons.

The dynamos occupy a separate building and are operated by a twenty-five horse power Atlas engine, and a sixty-horse power Harrisburg standard engine.

The following machinery is available for purposes of instruction. In direct currents: Twenty-five K. W. General Electric multipolar 125 volt generator; twelve K. W. Edison generator; seven and a half K. W. T.-H. generator; three K. W. Edison generator; three K. W. Weston generator; two and a half K. W. Star generator; nine-light T.-H. arc generator, with lamps; six-light Brush arc generator, with lamps; steam turbine headlight generating set; three twenty-horse power street railway motors; six-horse power motor; one-horse power Crocker-Wheeler motor; several small motors of various kinds.

In alternating currents: Seventy-five K. W. Bullcok three-phase 220 volt revolving field generator; three K. W. Ideal three-phase generator, with set of pulleys for different speeds; one K. W. Fort Wayne alternator, which can be used as an alternator, or as an A. C. or D. C. motor; two ten-horse power Westinghouse three-phase motors, with autostarters (used for supplying power to shops); General Electric five-horse power three-phase motor; Stanley one-horse power two-phase motor; a number of transformers, including phasing transformers, transforming from 220 volts three-phase to 500 volts two-phase; several smaller A. C. motors of various patterns.

V. IN PHYSICS.

The physical laboratory occupies two rooms, one of these being permanently darkened for experimental work in light.

It is equipped with numerous standard instruments of precision, such as verniers, micrometers, cathetometers, a horizontal comparator, a Kater's reversion pendulum, balances, etc., and a quantity of minor apparatus.

Recently there has been added a concave grating spectrograph, a large induction coil of 12-inch spark, and other apparatus of value.

VI. IN BOTANY AND BIOLOGY.

The laboratory for plant morphology and histology adjoins the lecture room of the professor, and is well equipped for investigation along these lines. The experimental work in plant physiology and pathology is conducted by the students in the laboratory and adjacent greenhouse, both of which are being rapidly equipped and altered to accommodate this important line of work.

A start has been made toward the development of a Botanic Garden, and it is the intention to add as rapidly as possible representatives of the native flora of this State, and a good collection of the native medicinal plants. In this manner it is planned to secure from the garden its maximum assistance in the work of instruction. Special work in plant breeding and biometry will also be conducted in this garden.

VII. IN ENGINEERING AND SURVEYING.

The necessary apparatus for field work, including transits, levels, plane table, models of bridges, etc., is provided for the use of the students, and the customary exercises in the field are given.

VIII. IN DRAWING.

All students in the lower classes are required to take drawing, a study which tends to discipline the mind, as well as to train the eye and hand to accuracy of observation and execution. A large, well-lighted drawing room, which will accommodate fifty students, is provided, with tables, lock-boxes, etc.

IX. IN MECHANICAL ENGINEERING.

A very important adjunct to the text book work in the mechanical engineering course is the laboratory or experimental work that the students do during the Senior year. Most of this work is now done in the lower story of the annex to the chemistry building, a room 30x60 feet in size. Steam is supplied by the boiler in the boiler house through a 3-inch steam main.

The equipment available for this instruction is as follows: A 35-horse power Cross compound engine, specially arranged for experimental work; a Wheeler surface condenser, and Worthington air pump and circulating pump; a 60-horse power Harrisburg engine; a 25-horse power Harris-Corliss engine; a 20-horse power Atlas engine; a 100-horse power Heine boiler; a Deane duplex steam pump; a 4½ horse power gasoline engine; an Ericsson hot air engine; a New York air pump; a Westinghouse air pump; an Ingersoll-Sargent air compressor; an electric headlight engine, indicators, calorimeters, thermometers, a pyrometer, scales, steam gauges, and an apparatus for testing gauges.

For testing the strength of materials, there is a 35,000-pound Riehle Bros. testing machine, arranged for making transverse, compression, and tension tests, and micrometer apparatus for measuring the deformation of a specimen under stress. In addition to the above working apparatus, there are a number of sectional models of machines and appliances, and models of mechanical movements, all of which are extremely useful for the purposes of instruction.

X. IN MINING ENGINEERING.

A fully equipped laboratory has been established for work in determinative mineralogy. Ores of economic importance and rock-forming minerals are studied. Work tables to accommodate twenty-eight students are supplied with gas, water, reagents, blow pipes, and a standard set of measuring crystals.

There is a drawing room fitted up for instruction in mechanical drawing, making blue prints, maps, topographical drawings, tracings and all drafting pertaining to mining operations.

XI. IN PHYSIOLOGY AND VETERINARY SCIENCE.

There has been constructed for the veterinary department a new and separate two-story building with nine rooms. It is provided with lecture room, office, working and operating rooms for clinical practice, and museum with skeletons of the domestic animals for instruction. Free clinics are given every Saturday for the benefit of the students in veterinary science.

There is a separate dissecting room constructed, with cement floor and north roof light, especially for this department. This laboratory is used by the professor and students each afternoon for three months.

XII. IN PHARMACY.

The laboratory of this department occupies the second floor of the annex to the chemical laboratory, and is provided with a sufficient supply of drugs and apparatus necessary for instruction in pharmaceutical preparations.

The students work in the laboratory with the professor from five to eight hours, six days in the week.

The facilities are increased as means are available.

XIII. IN HORTICULTURE.

A plat of twenty acres is devoted to orchards, vegetables, fruits, flowers and grapes. There is a well appointed greenhouse, fitted with modern apparatus for ventilation, heat, etc. Accurate experiments are conducted in this department in fruit growing and the culture of the various vegetables adapted to this climate. Students are given in this laboratory practical instruction in grafting, budding, spraying, fertilization, gathering, and marketing crops.

MILITARY TACTICS.

Instruction in this department is given in conformity with the act of Congress. Students receive the benefit of regular military drill, and, in addition, the military system is used as a means of enforcing discipline and securing good order, promptness and regularity in the performance of academic duties.

This department is supplied with cadet rifles and accoutrements for the corps.

COLLEGE BUILDINGS.

The frontispiece is a representation of the main College building. It is 160x71 feet, and contains forty-five rooms. This building is not used for dormitories for students, but is appropriated to purposes of instruction and investigation.

It contains the lecture rooms and offices of the professors, laboratories, library, museum, armory, etc.

LANGDON HALL.

This is a two-story building, 90x50 feet. The second story is the audience hall, used for commencement and other public occasions.

The first story is appropriated to the laboratory of mechanic arts.

THE CHEMICAL LABORATORY.

As shown on the opposite page, this is a two-story structure, 40x60 feet, with a rear projection, 35x60 feet, of one story and basement, and contains eight rooms. The exterior is of pressed brick, with cut stone trimmings and terra cotta ornamentation.

In the basement are ample accommodations for assaying and storage.

The main laboratory will accommodate sixty students, and contains improved working tables, with water, gas and every necessary appliance for chemical work.

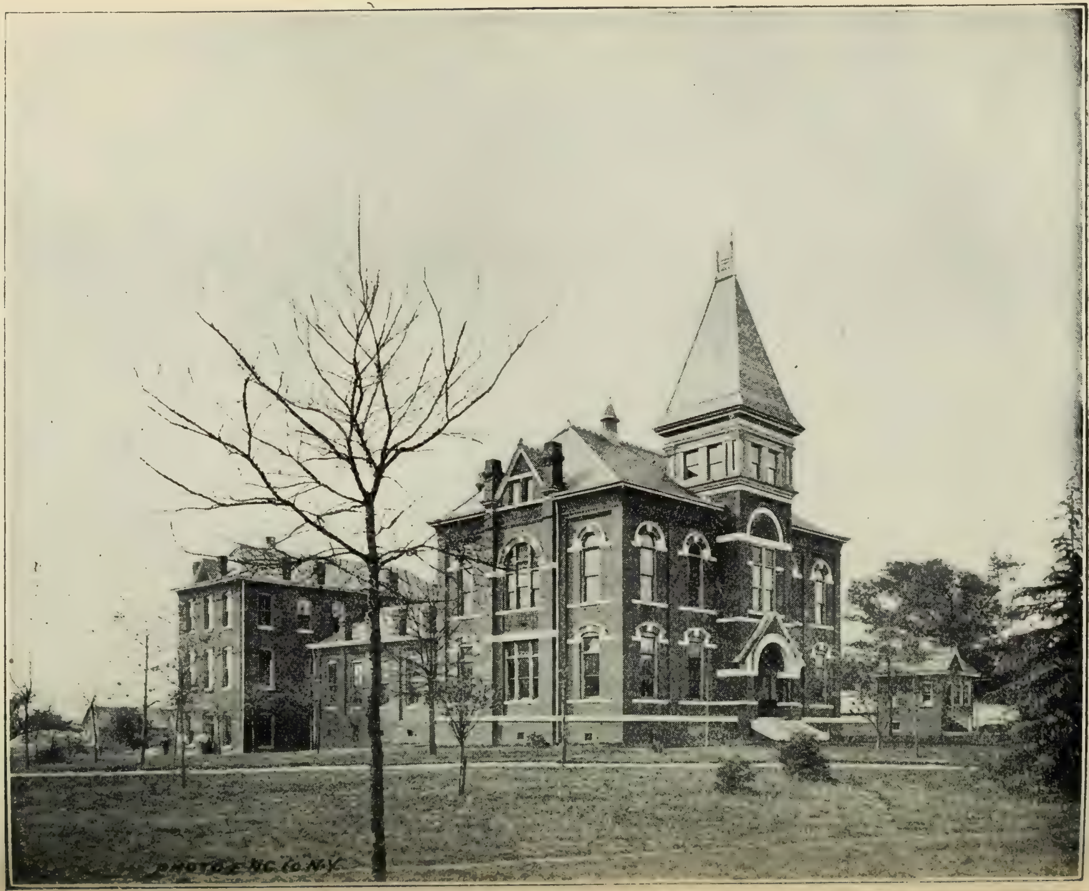
The laboratory for advanced work in chemistry will accommodate thirty students and is equipped in the same manner. Adjoining this are two rooms which are used respectively as a balance room, and a room for work with spectroscope, polariscope, etc.

The second story contains a lecture room with seats and tablets for eighty students. Around the lecture room are cases containing crude and manufactured products, illustrating agricultural and mechanical chemistry, prominent subjects taught in the institution.

ANNEX TO CHEMICAL LABORATORY.

This is a three-story brick building, containing rooms for pharmacy, mechanical engineering and drawing.

The Chemical Laboratory for the Agricultural Experiment Station occupies a building 60x26 feet and is appropriated exclusively for chemical investigation and research, and not for instruction.



CHEMICAL LABORATORY

GRADUATES IN 1903.

CLASS OF 1903.

HONORS.

Members of the Senior Class who attained distinction with a grade of 95 per cent. are Graduates with Highest Honor. Those who attained a distinction with a grade of 90 per cent. and less than 95, are Graduates with Honor. Those who attained less than 90 per cent. and more than 60 per cent. are Graduates.

DEGREES.

BACHELOR OF SCIENCE.

GRADUATES.

Albert Miner Avery	Florida
Robert Trammell Bagby	Lee
Marshall Leonard Bize	Georgia
James Victor Blackwell	Calhoun
Rush Pearson Burke	Montgomery
Thomas Arthur Caddell	Etowah
Dudley Chipley	Florida
Charles Sanders Culver	Lee
Howard Ellis Davis	Mobile
William Watson Davis	Mobile
William Wert Dinsmore	Morgan
Thomas Joseph Dowdell	Montgomery
Ernest Cecil Haynie	Lee
Henry Hiden	Jefferson
George Bloise Hill	Talladega
Wilburn Hill	Etowah
Roy Kauffman	Mobile
Howard Malcom Kilpatrick	Georgia
Walter Joseph Knight	Mobile
Percy McLean Marshall	Georgia
Winfield Scott Martin	Jefferson
Robert Peyton Mims	Jefferson

John Harris Mitchell	Georgia
Thomas William Morgan	Jefferson
James Porter Paterson	Montgomery
Wallace Powell Pruitt	Lowndes
Paul Rigney	Madison
William Watson Rutland	Chambers
Clifford Philip Rutledge	Lee
Hans Schmidt	Jefferson
John Rice Searcy	Conecuh
Julian Cassius Smith	Macon
Edward Taylor	Marengo
Louis Earle Thornton	Florida
William Lawson Thornton	Talladega
Holmes Fielding Troutman	Georgia
Filo Harris Turner	Florida
Joseph Dorrah Walker	Jefferson
Henry Matthew Yonge	Florida

GRADUATES WITH HONOR.

George Fouche Freeman	Cherokee
Ethel Julia Harwell	Lee
Sallie Fleming Ordway	Tennessee
William Bee Stokes	Marion

POST-GRADUATE DEGREE.

MASTER OF SCIENCE.

Frederick Cornelius Atkinson	Dale
Charles Homer Billingsley	Elmore
Jesse Wright Boyd	Lee
Marion Lara Brown	Georgia
William Bulger Hamilton	Elmore
Dallas Tabor Herndon	Georgia
Edward Andrew Miller	Marshall
Enrico Alfonso Washington	Georgia
John Eayres Davis Yonge	Florida

DISTINGUISHED STUDENTS.

DISTINCTIONS.

Students who receive a grade above 90 per cent. and less than 95 in three studies in the Freshman class, in four in the Sophomore class, in five in the Junior, and in six in the Senior, are distinguished for excellence in scholarship, and are awarded Certificates of Distinction. Those who receive a grade above 95 per cent. are awarded Certificates of Highest Distinstion.

FRESHMAN CLASS.

DISTINCTION.

John Cleveland Bryan	Georgia
Chester King Gould	Mobile
John Wesley Harris	Lee
Sidney Long	Butler
William LeRoy Mitchell	Lee
Robert Morris Prather	Autauga
Noah Parker Renfro	Lee

HIGHEST DISTINCTION.

James Robertson Black	Lee
Bertram Ezekiel	Butler
Claude Stewart McNeely	Tallapoosa
Frederick Henry Mohns	Jefferson
William Lee Newberry	Jefferson

SOPHOMORE CLASS.

DISTINCTION.

Harvey Emory Bennett	Lee
Edwin Valdivia Caldwell	Shelby
Shaffer Hood	Tallapoosa
John Ross Phillips	St. Clair
George Wallace Postell	Jefferson

James Rhett Smith	Butler
Oliver Earle Young	Sumter

HIGHEST DISTINCTION.

Robert Platt Boyd	Montgomery
John Vernon Denson	Chambers
Ralph Dudley	Georgia
Earle Eugene Jenks	Mobile
Walter Robert Samford	Lee
Henry Howard Thornton	Talladega

SPECIAL STUDENTS.

DISTINCTION.

Hiram Victor Arnold	Florida
Samuel Ashton	Jefferson
Minos Edward Gibbs	Jefferson
May Persis Harvey	Lee
Laurens Walter Pierce	Elmore

JUNIOR CLASS.

DISTINCTION.

George Bridges Foss	Mississippi
Allen Green Jones	Dallas
Samuel Thomas Jones	Sumter
William Hugh McEniry	Jefferson
Arthur Wilhelm Merkel	Jefferson
Frederick Shealy Middleton	Chambers
James Leonidas Murphy	Conecuh

HIGHEST DISTINCTION.

George Dunglinson	Talladega
John William McConnell	Jefferson
William Martin Shepard	Mobile
Berner Leigh Shi	Georgia

COMMENCEMENT ADDRESS.

Richard H. Edmonds, Baltimore, Md.

CATALOGUE OF STUDENTS

FOR SESSION OF 1903-1904.

GRADUATE STUDENTS.

James Victor Blackwell	Calhoun
Rush Pearson Burke	Montgomery
Thomas Arthur Caddell	Etowah
Charles Sanders Culver	Lee
William Watson Davis	Mobile
Thomas Joseph Dowdell	Montgomery
Bell George Hazard	Calhoun
Jesse M. Jones	Lee
John Harris Mitchell	Georgia
Thomas William Morgan	Jefferson
James Porter Paterson	Montgomery
Laurens Walter Pierce	Elmore
John Rice Searcy	Conecuh
Edmund Rhett Taber, Jr.	Montgomery
Holmes Fielding Troutman	Georgia

SENIOR CLASS.

William LeRoy Alston	South Carolina
Bessie Susan Alvis	Lee
Bessie Harden Bagby	Lee
Frank Gordon Bell	Lee
William Arthur Branan	Georgia
Andrew Duke Cameron	Macon
Julian Sidney Chambers	Russell
James Henderson Childs	Georgia
Felix Franz Otto Doering	Calhoun
Louis Warren Duffee	Mobile
George Dunglinson, Jr	Talladega
Verlie Roy Emrick	Jefferson
Edwin Washington Ewing, Jr	Lowndes
George Bridges Foss	Mississippi

Walter Somerville Going	Jefferson
Heyman Hagedorn	Georgia
Leonard Park Hall	Jefferson
Walter Leonidas Harwell	Lee
Guy David Hawkins	Jefferson
Thomas Vandiver Herndon	Henry
Cassius Rex Hudson	Lee
James Dougherty Hudson	Georgia
Walter Wier Johnston	Calhoun
Allen Green Jones	Dallas
Samuel Thomas Jones	Sumter
Isham Kimbell	Clarke
†Alexander King, Jr	Lee
†Tracy Lay	Etowah
William Richard Lee	Jackson
Haly Lisenby	Henry
Henry Richard Luscher	Mobile
Isaac Sadler McAdory	Jefferson
John William McConnell, Jr	Jefferson
Henry McDonnell, Jr	Madison
John McDuffie, Jr	Monroe
Thomas Pettus McElderry	Talladega
William Hugh McEniry	Jefferson
Thomas Hatcher Matson	Talladega
Arthur Wilhelm Merkel	Jefferson
Frederick Shealy Middleton	Chambers
Frank Elmer Miller	Calhoun
James Leonidas Murphy	Conecuh
Fulton Pace	Tallapoosa
Edward Owen Perry	Georgia
Charles McPherson Aduston Rogers	Sumter
Cicero Rudd	Lee
William Martin Shepard	Mobile
Berner Leigh Shi	Georgia
Zachary Pope Smith, Jr	Jefferson
†Joseph Churchill Strong, Jr	Mobile
Albert Lee Thomas	Lee
Alma Cole Tompkins	Lee
William Micou Turnley	Montgomery
†Willis Henry Grady Venable	Jefferson
Charles Clement Voyle	Florida

William Francis Ward	Lee
John Mayer Wilson, Jr	Clarke
William Mason Wilson	Etowah

†Not in full standing.

JUNIOR CLASS.

†Robert Evan Allison	Sumter
Eric Alsobrook	Lee
Franklin King Beck	Wilcox
Frederick Rudulph Bell	Lee
Harvey Emory Bennett	Lee
James Seaborn Boyd	Montgomery
Robert Platt Boyd	Montgomery
Thomas Cobb Bradford	Lee
James Austin Buchan	Pike
Sylvanus Leonidas Burney, Jr	Chambers
Edward Harman Cabaniss, Jr	Jefferson
Joel Philip Carter	Pike
Frank Furniss Cawthon	Dallas
William Brasher Clayton	Barbour
Lemuel Jackson Cobb	Cherokee
†James Henry Coleman	Georgia
Obie Boland Cooper	Marshall
John Ray Copeland	Marshall
Robert Cowan	Lee
John Vernon Denson	Chambers
Ralph Dudley	Georgia
Edgar Ervin Esslinger	Madison
Josiah Flournoy	Georgia
Kess Lawson Forrester	Houston
†William Humphrey Foy	Barbour
Miller William Francis	Coosa
Alice Brown Frazer	Mobile
Samuel Luther Gipson	DeKalb
Leonard Graham Gresham	Autauga
May Persis Harvey	Lee
Morris Abram Hartz	Georgia
†Shaffer Hood	Tallapoosa
Frank Parkinson Howard	Macon
Robert Lee Hudson	Marengo
†Frank Paul Hurt	Jackson

Earle Eugene Jenks	Mobile
Clifford Hasting Johnson	Georgia
Earle Kauffman	Mobile
Joseph Cabot Kellett	Marshall
Albert Roy Killebrew	Dale
†Walter Eugene Knox, Jr	Calhoun
Richard McCall McCulloh, Jr	Louisiana
John Howard McEniry	Jefferson
Bernard McLaurine	Bullock
Claude Cooper McLean	Covington
Enoch Lester Miller	Marshall
Louis Walton Montgomery	Lee
James Bruce Moseley, Jr	South Carolina
Clarence LaFayette Mullin	Lee
Cicero Louis Nelson	Baldwin
John Haygood Paterson	Montgomery
Wert Horace Peace	Jefferson
†Walter Werle Peagler	Butler
Sara Woods Pearce	Calhoun
Henry Clarence Perkins	Barbour
Burke Benjamin Philips	St. Clair
George Wallace Postell	Jefferson
Francis Esten Purifoy	Wilcox
Forney Renfro	Lee
Randolph Smith Reynolds	Calhoun
Charles Claude Rigney	Madison
Walter Robert Samford	Lee
James Harrison Schuessler	Chambers
Linwood Seale	Sumter
George Burton Skinner	Marengo
†John Floyd Smith, Jr	Calhoun
†James Rhett Smith	Butler
†William Hinton Tagert	Mobile
John Edward Thigpen	Lowndes
Henry Howard Thornton	Talladega
Charles Spurgeon Waldrop	Jefferson
Drury Lee Walker	Jackson
David Gaston Wilkinson	Wilcox
Robert Hammet Witherspoon	South Carolina
Oliver Earle Young	Sumter

†Not in full standing.

SOPHOMORE CLASS.

Morris Simpson Allen	Calhoun
Otis DeWitt Alsobrook	Lee
Martha Louise Anderson	Lee
Philip Holcombe Avary	Lee
Henry Madison Averyt	Lee
James Lawrence Bailey, Jr	Marengo
John Baker	Conecuh
Camilla Mott Beasley	Lee
Modesta Francis Beasley	Lee
James Robertson Black	Lee
William G. Boyd	Tennessee
†Edwin Matherson Bragg	Lee
Chester Sterrett Browne	Shelby
†Emmett West Buckley	Mobile
Charles Taylor Butler	Madison
†Knox Hardwood Camp	Talladega
Casper Carl Certain	Madison
Dillard Hazelrigg Clark, Jr	Florida
Lynn Lewis Conner	Macon
Willard Cooper	Georgia
Jesse Oliver Cosper	Colbert
Benjamin Harris Cross	Lee
†James Lile Cross	Lee
†Julian Jarnigan Culver	Lee
Ernest Percival Davis	Florida
Howard Hall Davis	Florida
Charles Abiatha Dean	Lee
Nimrod Davis Denson, Jr	Chambers
Thomas Lewis Dickson	Lee
Charles Garrison Dillard, Jr	Madison
George Traylor Edwards	Dallas
Bertram Ezekiel	Butler
Samuel Burwell Fort	Dallas
James Clark Francis	Coosa
George Hardaway Frazer	Lee
Mell Alexander Frazer	Mobile
William Caffey Garrett	Jefferson
Frederick Emanual Geibel	Montgomery
Minos Edward Gibbs	Jefferson
Benjamin Shields Gilmer	Choctaw

Chester King Gould	Mobile
Lynwood William Gray	Calhoun
DuPont Guerry, Jr	Georgia
Lyman Compton Hall	Talladega
Leoline Hammack	Lee
†Irving Skinner Hannon	Mobile
Preston Brooks Harrell, Jr	Dallas
Lieu Dolphus Hawkins	Tuscaloosa
Frank Hertz	Georgia
Sidney Herzfeld	Tallapoosa
George Estes Hicks	Talladega
Gilbert Russell Hollinger	Wilcox
John David Hudson	Lee
William Francis Jordan	Madison
Cincinnatus Decatur Killebrew	Dale
Frank Dansby King	Marengo
James Pierce Ledyard	Montgomery
William Leonard Lett	Lee
Charles Felton Little	Lee
Arthur Logue	Wilcox
Sidney Long	Butler
Charles Pollard Marks	Jefferson
William Gaston Martin	Lee
William James McBride	Morgan
†Hugh Francis McElderry	Talladega
Abner Charles McGehee	Montgomery
Claude Stewart McNeely	Tallapoosa
William Monroe Meredith	Greene
Hinton Alfred Middleton	Chambers
John Augustus Miller	Calhoun
Henry Gaston Mitchel	Tennessee
William LeRoy Mitchell	Lee
Frederick Henry Mohns	Jefferson
David Hampton Morris, Jr	Geneva
Wilbur Napoleon Morris	Geneva
Edward Preston Murphy	Butler
William Lee Newberry	Jefferson
Robert Lee Nowlin	Etowah
Thomas Henry Pattison	Lee
Julius Franklin Peavy, Jr	Escambia
Henry Petersen	Jefferson

Samuel Pouncey	Geneva
James Marion Poyner	Dale
Robert Morris Prather	Autauga
Daniel Mitchell Rencher	Perry
Noah Parker Renfro, Jr	Lee
†Royden Keith Stanley	Chambers
Frederick Weeden Teague	Montgomery
Felix Eugene Watkins, Jr	South Carolina
Fletcher Gordon Webb	Lee
†James Cox Webb	Marengo
Clifford Anthony Marian Weber	Jefferson
Adolphus Weil	Montgomery
Clarence Paul Welles	South Carolina
Hubert Whitaker	Louisiana
John Leo Woolf	Calhoun
Claude Wright	Pike

†Not in full standing.

FRESHMAN CLASS.

†Frank Cecil Alexander	Jefferson
John Davidson Alexander	Marengo
†Clifford Goodman Arbery	Calhoun
Bennett Bagby	Lee
Byron Breckingridge Barnes	Greene
Stephen Radford Batson	Jefferson
Charlton Eugene Battle, Jr	Georgia
James Edmund Fulton Beattie	St. Clair
William Rufus King Beck	Wilcox
Milton Stanhope Brasfield	Marengo
George Marvin Brinson	Montgomery
William Franklin Brooks	Montgomery
James Daniel Browder	Sumter
Albert Cook Bryant	Wilcox
John Wilton Burton	Lee
Theron Cannon	Fayette
†Tolbert Fanning Cheek, Jr	Jefferson
Benjamin O'Connor Childs	Georgia
Sanford Henry Cohen	Georgia
Edward Tarleton Collier	Montgomery
Henry Hamlet Constantine, Jr	Calhoun
Charles VanWormer Cornell	Lee

Clarence Edward Cowan	Clarke
†William Henry Crawford	Montgomery
†Shelby Montgomery Cullom	Jefferson
Frederick Curtis	Escambia
Marion Brooks Davis	Geneva
John Cameron Dow	Barbour
Richard Hodges Drake	Lee
Grover Cleveland Emmons	Escambia
Theodore Keller Eppes	Jefferson
George Robert Farnham	Conecuh
Frank Ferguson	Jefferson
William Morris Given, Jr	Jefferson
Richard Chiles Gowdey	Sumter
†Edgar Daniel Greene	Chambers
Seymour Hall	Jefferson
William Hardie, Jr	Jefferson
Ambrose Harwell	Lee
John Henry Harper	Perry
Jackson Martin Hobbie	Montgomery
Charles Mell Hudson	Lee
George Griffin Hughes	Marion
Thomas Aurea Ingram	Calhoun
Lovic Boyd Jeter	Geneva
Herschel Victor Killebrew	Georgia
Henry Eugene Kimbrough	Wilcox
Chester Brannon Knapp	Lee
John Ernst Kumpe	Lawrence
William Morris Lacey	Jefferson
Guy Lipscomb	Marengo
William Spence Lurton	Florida
Drury Powers Malone	Georgia
Frederick McGehee	Chambers
Norman Burns McLeod	Clarke
Oscar Hall McMillian	Greene
Albert McPherson	Lee
Thomas Wilson Milner	Calhoun
Alfred Holley Mitchell	Lee
Thomas Byrd Mobley	Escambia
Earle Moore	St. Clair
†Cornelius VanCleef Morris	Colbert
†Albert Moulthrop	Barbour

James Madison Douglas Page	Jefferson
DeWitt Thomason Peavy	Escambia
Alexander Ploeger	Jefferson
Harry Popper	Georgia
Bernice Eugene Prather	Lee
Grover Cleveland Prowell	Marengo
Dorsey Marriott Rice	Georgia
Clifford Bartlett Richardson	Colbert
Thurman Harold Robertson	Perry
Claude Jonathan Rogers	Jefferson
Daniel Trueheart Shepard	Mobile
Lucien Hamilton Shepard	Mobile
Samuel Robert Shi	Georgia
Lynn Shook	Jackson
Richard Walpole Sistrunk	Lee
Edward Hunter Cobb Smith	Macon
Harry Smith	Montgomery
Roscoe Owen Stephenson	Walker
William Charles Streit	Jefferson
Benjamin Marcus Tarver	Dallas
†John Bass Tarver	Bullock
Paul Lee Taylor	Jefferson
Fletcher Jackson Thagard	Butler
Joseph Atkinson Thomas	Georgia
Morgan Dillard Thompson	Tallapoosa
Ernest Wood Thornton	Talladega
James Ernest Threadgill	Marengo
Samuel Augustus Threadgill	Marengo
William Reeves Vandiver	Talladega
Horace Van De Voort, Jr	Wilcox
Arthur Edmund Voyle	Florida
Adie Goggans Walker	Coosa
†Earle Volney Walkley	Lee
Robin Monroe Webb	Jefferson
LeRoy George Weber	Jefferson
†Samuel Carter Weems	Bullock
Henry Tompkins White	Colbert
Ralph Chester Williams	Russell
Thomas McCottry Williams	Lowndes
†Ulmont Boaz Williams	Jefferson
Daniel Elmer Wilkinson	Florida

Evans Beauchamp Wood	Pike
Homer Waller Wright	Lee
Edmund Augustus Wright	Tennessee
James Alto York	Dale
Sherwood M. Young	Lee

†Not in full standing.

SPECIAL AND IRREGULAR STUDENTS.

Lucious Geneve Adams	Mech. (2d year)	Talladega
Henry Alexander Allison	E.&M.E. (2d year)	Sumter
Samuel Wilbert Archibald	Agr. (1st year)	Greene
Chester Garfield Arthur	Mech. (2d year)	Jefferson
Samuel Ashton	E.&M.E. (2d year)	Jefferson
George Cleveland Blanks	Ph. (2d year)	Shelby
Samuel Davis Brown	E.&M.E. (1st year)	Georgia
Henson Estes Bussey	E.&M.E. (2d year)	Jefferson
Dupree Clay Cameron	Agr. (1st year)	Greene
Turner Christian Cameron	Ph. (2d year)	Greene
Walter Bibb Clark	Agr. (1st year)	Montgomery
Reuben Brackston Cotney	Mech. (1st year)	Randolph
Helen Frances Craig	Chem. (1st year)	North Carolina
John Edmon Cross		Jefferson
Louis Allen Davis		Florida
James Louis Dean	Ph. (2d year)	Montgomery
Walker Hamilton Durham	Ph. (2d year)	Georgia
Ernest Stout Ford	Ph. (1st year)	Dale
John Thomas Formby	Ph. (1st year)	Calhoun
Howard Wilson Going	Mech. (1st year)	Jefferson
John Joseph Griffin, Jr.	Ph. (2d year)	Dallas
Malcolm Hanna	Ph. (2d year)	Florida
Hilary Herbert Henderson		Butler
Ella Theolian Hildreth	Chem. (1st year)	Morgan
Harry Lowry Hooper	Chem. (1st year)	Dallas
Wallace Duskin Hogue	Agr. (2d year)	Hale
James Elliott Holt	Mech. (2d year)	Lee
Percy Wilbur Hudson	Agr. (1st year)	Lee
George Wallace Jackson	Ph. (2d year)	Lee
Emmett Llewllyn Jones	Chem. (1st year)	Calhoun
Walter Maurice Jones-Williams	E. & M. E.	Lee
Alexander Stephen Knowles	Chem. (1st year)	Jefferson

Edward Philip Lacey		Jefferson
Lufay King Lanier	Agr. (1st year)	Georgia
James Riley Lindsey	Mech. (1st year)	Escambia
Caleb Howell Lindsey	Mech. (1st year)	Mobile
Henry Marvin McLeod	Mech. (1st year)	Clarke
Robert Kinnard Martin	Ph. (2d year)	Jefferson
Jamie Roger Mason	Agr. (1st year)	British Honduras
Lee Penn Montgomery		Lee
Harry Lee Moody	Ph. (1st year)	Calhoun
William Pittman Moon		Coosa
John Cladius Morris	Ph. (2d year)	Blount
William Harris Owens	Ph. (1st year)	Cleburne
Thomas Roswell Parish, Jr.	Ph. (1st year)	Barbour
Helen Tracy Parsons		Kansas
Gilder Lemuel Payne	E.&M.E. (1st year)	Jefferson
Bennett Henderson Pearce	Agr. (1st year)	British Honduras
Monroe Thomas Penn		Lee
William W. Perdue	Ph. (2d year)	Lowndes
Hugh Langdon Quin	Ph. (1st year)	DeKalb
James Reid	Ph. (2d year)	Barbour
Thomas Andrew Riley		Jefferson
Angel Esteban Sanchez	Agr. (1st year)	Nicaragua
Arthur Claude Smith	Ph. (1st year)	Elmore
Herbert West Smith	Mech. (1st year)	Jefferson
Frederick David Spruance	Mech. (1st year)	Colbert
Henry Harvey Thomas	Ph. (2d year)	Tallapoosa
Lucion Blacbon Thornton		Talladega
Luther Tisdale	Ph. (2d year)	Conecuh
Clara Daniel Walkley		Lee
Walter Henry Walters	Ph. (2d year)	Pike
Albert Thornton Ward	Chem. (2d year)	Lee
Francis Hobbs Watson	E.&M.E. (2d year)	Dallas
Carl Wharton	Ph. (2d year)	Cherokee
William Thomas White		Hale
Preston Young Whitman	Ph. (1st year)	Perry
Broughton Wilkinson		Butler
Kate Wills		Lee
Ralph Gordon Williams	E.&M.E. (2d year)	Jefferson
James A. Wood		Jefferson

SUB-FRESHMAN CLASS.

William Anson Ballow	Marengo
Robert Evans Barnes	Monroe
Benjamin Franklin Bell	Barbour
Samuel Jackson Bolling	Butler
George Edwin Bradford	Lee
Charles Leonard Chambers	Jefferson
George McCoun Cook	Wilcox
Roy Dobson	Randolph
Benjamin Elliott, Jr.	Sumter
Bush Slaughter English	Monroe
Jasper Nuton Downs	Jefferson
Charles Rosenstihl Dudley	Russell
James Albert Fields	Jefferson
Frederick Richmond Franks	Talladega
Rudolph William Gallasch	Mobile
Octavio Gonzalez	Cuba
Dewitt Clinton Gordon	Wilcox
William Jay Gould	Jefferson
John Barnett Griffis	St. Clair
Arthur Louis Hinckley	Mobile
John Lithen Jernigan	Escambia
Clement Richardson Jones	Wilcox
Robert Augustus Lee, Jr	Houston
Samuel Currie Matthews	Chilton
John Marcus McClellan, Jr	Georgia
Jackson William McGowan	Escambia
Robert Stuart McWhorter	Lowndes
Holsey Hill Mitchell	Russell
Peyton Jenkins Moore	Lee
Edward Cobb Motley	Lee
Robert Trent Pearce	Chambers
Jackson Reid Powell	Butler
Osie Clyde Prather	Lee
Obie Riddle	Coosa
John Routledge	Jefferson
Thomas Rayburne Samuel	Marshall
Jere Mason Scarrit	Florida
James Lister Skinner	Lee
Olin Conway Skinner	Lee

Percy Marsh Smith, Jr.	Choctaw
James Gardner Somerville	Pickens
Thomas Whit Sparks	Walker
Grover Cleveland Stallworth	Monroe
Samuel Ernest Starr	Wilcox
John Bowie Steadham	Lee
James Thomas Steele	Marengo
Theodore Abner Steely	Washington
Frederick Norman Stephens	Barbour
Wilkins Thompson	Bullock
Prentiss Ulmann Threadgill	Wilcox
Cecil Corniff Walkley	Lee
Bernard Augustus Webb	Lee
Henry Zolliecoffer Wilkinson	Butler
Balus Hibbler Windham	Pickens
Thomas Clark Windham	Pickens

SUMMARY.

Graduate Students	15
Senior Class	58
Junior Class	75
Sophomore Class	97
Freshman Class	109
Special and Irregular Students	71
Total in College Classes	425
Sub-Freshman Class	55
Total	480

NUMBER OF STUDENTS IN EACH SUBJECT OF STUDY.

English	412
History	276
French	32
German	43
Latin	119
Mental Science	16
Political Economy	50
Mathematics	402
Chemistry	181
Chemical Laboratory	176
Agriculture	125
Physics	274
Botany	63
Horticulture	18
Geology	40
Civil Engineering	47
Electrical Engineering	61
Mechanical Engineering	64
Mining Engineering	12
Drawing	380
Mechanic Arts	305
Military Department	431
Mineralogy	36
Physical Laboratory	59
Physiology	67
Veterinary Science	10
Pharmacy	34
Bacteriology	12

RESIDENCE BY STATES.

Alabama	430
Georgia	26
Florida	6
Cuba	1
Mississippi	1
Tennessee	3
Louisiana	3
North Carolina	1
Nicaragua	1
Kansas	1
South Carolina	5
British Honduras	2
Total	480

MILITARY ORGANIZATION.

1903-1904.

President,

CHARLES COLEMAN THACH.

Commandant,

COL. BENJAMIN S. PATRICK.

Surgeon,

J. H. DRAKE.

Battalion Staff,

Cadet Captain B. L. Shi, Assistant to the Commandant.
Cadet Captain J. S. Chambers, Adjutant.
Cadet Captain W. S. Going, Quartermaster.
Cadet First Lieutenant W. L. Harwell, Principal Musician.
Cadet First Lieutenant I. Kimbell, Assistant Adjutant.
Cadet Sergeant F. P. Hurt, Sergeant Major.
Cadet Sergeant M. W. Francis, Quartermaster Sergeant.

Cadet Captains,

1. J. H. Childs.
2. J. McDuffie.
3. W. M. Wilson.
4. H. R. Luscher.

Cadet First Lieutenants,

1. A. G. Jones.
2. Geo. Dunglinson.
3. Z. P. Smith.
4. T. H. Matson.
5. J. D. Hudson.
6. T. V. Herndon.
7. L. W. Duffee.

Cadet First Sergeants,

1. O. E. Young.
2. W. H. Foy.
3. R. M. McCulloh.
4. J. H. Paterson.

Cadet Sergeants,

1. H. H. Thornton.
2. R. P. Boyd.
3. J. S. Boyd.
4. R. Dudley.
5. E. H. Cabaniss.
6. E. Alsobrook.
7. L. Seale.
8. E. E. Esslinger.
9. J. E. Thigpen.
10. L. G. Gresham.
11. H. E. Bennett, color sergt.
12. J. V. Denson.
13. G. W. Postell.
14. C. C. Rigney.
15. J. H. Schuessler.
16. O. B. Cooper.

Cadet Corporals,

1. C. K. Gould.
2. F. H. Mohns.
3. C. S. McNeely.
4. J. R. Black.
5. H. A. Middleton.
6. F. W. Teague.
7. D. M. Rencher.
8. M. S. Allen.
9. M. A. Frazer.
10. L. C. Hall.
11. C. A. Dean.
12. S. Long.
13. H. Whitaker.
14. N. P. Renfro.
15. L. W. Gray.
16. H. Petersen.

The A. P. I. Cadet Band.

M. THOS. FULLAN, Bandmaster.
W. L. HARWELL, Principal Musician.
O. B. COOPER, Drum Major.

F. G. Bell.
L. J. Cobb.
C. V. Cornell.
C. A. Dean.
R. H. Drake.
R. Dudley.
V. R. Emrick.
G. B. Foss.
G. H. Frazer.
G. D. Hawkins.
H. Hagedorn.
J. D. Hudson.
C. S. McNeely.
W. L. Newberry.
W. R. Samford.
A. L. Thomas.
E. V. Walkley.
C. P. Welles.

Cadets of the graduating class who were reported to the Adjutant General, U. S. Army, for publication in the "Official Army Register" as having ranked highest in the Military Department:

1889.

A. St. C. Dunstan.
B. H. Crenshaw.
A. J. Burr.

1890.

F. D. Milstead.
J. W. Bivins.
G. W. Emory.

1891.

L. E. Baker.
C. C. Johnson.
F. J. Bivins.

1892.

H. F. Dobbin.
A. L. Jones.
C. L. Brown.

1893.

Joel Dumas.
C. H. Smith.
J. F. Webb.

1894.

C. S. Andrews.
P. P. McKeown.
R. T. Dorsey.

1895.

S. L. Coleman.
H. H. Smith.
L. B. Gammon.

1896.

A. L. Alexander.
W. L. Fleming.
W. M. Williams.

1897.

P. G. Clark.
G. M. Holley.
G. N. Mitcham.

1898.

A. H. Clark.
A. McB. Ransom.
John Haralson.

1899.

I. F. McDonnell.
A. H. Feagin.
T. W. Wert.

1900.

E. M. Mason.
H. P. Powell.
C. W. Nixon.

1901.

A. F. Jackson.
J. D. Foy.
P. S. Haley.

1902.

W. D. Willis.
J. E. D. Yonge.
J. B. Garber.

1903.

H. E. Davis.
H. M. Yonge.
T. J. Dowdell.

REQUIREMENTS FOR ADMISSION.

All applicants for admission should present testimonials of good moral character, and those who come from other colleges must present certificates of honorable discharge.

To enter the Freshman class the applicant must be not less than fifteen years of age, and should be qualified to pass a satisfactory examination on the following subjects:

1. Geography and History of the United States.

2. English—(a) English grammar as contained in any standard text. (b) An examination upon sentences containing incorrect English. (c) A composition giving evidence of satisfactory proficiency in spelling, punctuation, grammar, and division into paragraphs.

(a) *Reading.* The composition of 1904 will be upon subjects drawn from one or more of the following works in English Literature: (1) Hughes's *Tom Brown at Rugby;* (2) Southey's *Life of Nelson;* (3) Shakespeare's *Julius Caesar;* (4) Longfellow's *Evangeline;* (5) Scott's *Ivanhoe;* (6) Shakespeare's *Merchant of Venice;* (7) Irving's *Sketch Book;* (8) Macaulay's *Essay on Milton;* (9) Scott's *Marmion;* (10) Dickens's *David Copperfield.*

The candidate will be required to present evidence of a general knowledge of the subject matter, and to answer simple questions on the lives of the authors. This part of the examination is intended only to test a general knowledge of the substance of the books.

(b) *Study and Practice.* This part of the examination presupposes the thorough study of the style of the work, and will be upon *Julius Caesar* and the *Essay on Milton.*

Preparation and examination on these works will be necessary before the student is classed as regular in any course.

3. Mathematics—(a) Arithmetic, including fundamental operations; common and decimal fractions; denominate numbers; the metric system; percentage, including interest and discount; proportion. (b) Algebra to quadratic equations; especial preparation is urged in *fundamental operations, factoring, multiples, divisors* and *fractions;* two books of geometry.

4. Those applicants who desire to continue the study of Latin should be qualified to pass a satisfactory examination in Latin grammar and the first two books of Caesar, in addition to the above subjects.

In pronouncing Latin it is recommended that *ā* be pronounced as in *father; ă* as the *a* in *Cuba; ē* as in *prey; ĕ* as in *men; ī* as in *machine, i* as in *cigar; ō* as in *old; ō* as in *obey; ū* as in *rule; ŭ* as in *full; j* as *y* in *yard; c* always as *k* in *king; g* always as *g* in *get.*

For admission to the higher classes, students should be prepared to stand satisfactory examination in all of the studies of the lower classes, as shown in the course of study. Students applying for admission to the sophomore class will be examined in mathematics through quadratic equations and logarithms in algebra, and on seven books in geometry. Where opportunity has not been offered to pursue special studies required at this College, the system of equivalents will be adopted, and studies which denote an equivalent amount of discipline and training will be accepted as satisfactory. But if not prepared to pass an examination in history and chemistry at the time of application, the applicant will be required before graduation to pass a satisfactory examination on these subjects.

It is absolutely essential that students who hope to succeed should be well grounded in arithmetic, algebra, and geometry.

A working knowledge of the metric system should also be obtained.

ADMISSION ON CERTIFICATE.

Applicants will be admitted without examination on presenting a certificate from any of the CERTIFICATE SCHOOLS named herein.

The following educational institutions having made application to be correlated to this College, and having presented an approved course of study, are hereby declared to be CERTIFICATE SCHOOLS, and are granted the privilege set forth in the following:

"Students from certificate schools will be admitted to the fresh-
" man class *without examination* upon the certificate of the presi-
" dent or principal, showing definitely that such students have
" completed satisfactorily all the studies required for admission, as
" stated in the catalogue, and are otherwise admissible."

The privilege of admitting students to the Sophomore class on certificate will be granted only to those approved schools that have had a continuous existence for five years or more and have previously had pupils admitted to that class without conditions.

The following form of certificate will be used:

I hereby certify that A.......... B.......... has attended the (*name the school or academy*) for .... years, and has studied the following subjects:

in History ....(*name the books*)
in English ....(*name the books*)
in Algebra ....(*state amount accomplished*)
in Geometry ....(*state amount accomplished*)
in Latin ....(*state books read*)
and having passed a satisfactory examination on these subjects as required in the Catalogue for admission to the ....class, he is recommended for the same.

Admission by certificate is regarded as provisional.

That is, though admitted to the class for which the certificate calls, the applicant may be required to take special examination in any subject in which his preparation proves unsatisfactory, or, after a fair trial, he may be dropped to a lower class, if he fails to maintain standing in the class to which he may be admitted.

CERTIFICATE SCHOOLS.

University Military School, Mobile	J. D. Wright.
Verner Military Institute, Tuscaloosa	W. H. Verner.
University School, Montgomery	J. M. Starke.
Mt. Willing High School, Mt. Willing	J. Knight.
State Normal School, Jacksonville	C. W. Daugette.
Male Academy, Huntsville	F. Puryear.
Furman Academy, Livingston	L. A. Cockrell.
High School, Opelika	G. W. Brock.
Eighth District Agricultural School, Athens	M. K. Clements.
Sixth District Agricultural School, Hamilton	E. F. Cauthen.
Eutaw Male Academy, Eutaw	H. C. Horton.
Anniston Training School for Boys	W. A. White.
Taylor's School, Birmingham	W. P. Taylor.
University High School, Birmingham	I. J. White, M. B. Dickinson.

Fourth District Agricultural School, Sylacauga	T. A. Anderson.
Gaylesville High School	John R. Ray.
Oxford Graded Schools	John R. Bell.
Carrollton Academy	L. V. Rosser.
Ninth District Agricultural School, Blountsville	J. A. B. Lovett.
Gadsden High School	W. E. Striplin.
Boyd High School, Brundidge	B. H. Boyd.
Carrollton High School (Ga.)	J. S. Caldwell.
Eufaula High School	F. L. McCoy.
Union Springs High School	J. M. Sanders.
Montgomery High School	C. L. Floyd.
Sycamore Academy	C. C. Slaton.
Southern Agricultural School, Abbeville	J. V. Brown.
Barnes's School, Montgomery	E. R. Barnes.
Jackson Agricultural School	Douglas Allen.
Spring Lake School	W. C. Griggs.
Pensacola Classical School	H. C. Armstrong.
Grady Institute, Ft. Valley, Ga	W. J. Scroggs.

ADMISSION OF YOUNG WOMEN.

The privilege of becoming students in this College is granted by the Trustees to young women of mature mind and character, on the following conditions:

The applicant must be seventeen years of age, and if a candidate for a degree, be able to pass a satisfactory examination in each of the four subjects named below.

If the applicant is a candidate for admission as a special or irregular student, she must be able to pass a satisfactory examination in two of the subjects named, and may be admitted at an age less than seventeen, with a resident of Auburn acting as guardian, if application is approved by the Faculty.

(a) In English—Proficiency in spelling and punctuation; Grammar (Lockwood-Whitney); Rhetoric (Lockwood's Lessons and Carpenter's Rhetoric); Scudder's Masterpieces of American Literature; Syle's From Milton to Tennyson.

For requirements in reading in literature see page 38.

(b) In History—Macy's Our Government; Chambers's History of the United States; Myers's General History.

(c) In Mathematics—Arithmetic; Algebra, including quadratic equations, logarithms and series; Plane and Solid Geometry; Plane and Spherical Trigonometry, as in Wentworth.

(d) In Latin—Grammar, including the forms and syntax; Jones's Latin Prose Composition; translations of selections from Cæsar, Nepos, Virgil, Cicero's Orations, Cicero's Letters, or the equivalent.

The equivalents of these subjects, as in above text-books, may be substituted.

When admitted, upon complying with the conditions above stated, the applicants may enter upon the study of any subject taught in the College and join any class, for which upon examination, they may be found qualified. The only condition imposed will be that they engage in earnest study, and attend the exercises regularly. They will board in town with private families, and attend college only at the hours of their exercises.

ENTRANCE EXAMINATIONS.

Entrance examinations will be held on Wednesday, the 7th of September, the day on which the session opens. Candidates will also be examined during the session, when application is made for admission.

Applicants who are not prepared to stand the entrance examinations for full admission to the freshman class are admitted to the sub-college department, provided they are sixteen years of age, and are found after examination qualified to profit by the instruction given. Those who, after admission, are inattentive to their studies, and neglectful of their duties, will be required to withdraw, but those who are studious and make sufficient progress will be advanced to full admission to the freshman class when they are qualified to pass satisfactorily the required examinations.

Students, upon their arrival at Auburn, will report immediately to the President. No student will be admitted to a recitation in any class previous to matriculation.

NUMBER OF EXERCISES REQUIRED.

All students are required to have not less than fifteen recitations per week, or their equivalent, in addition to the exercises in laboratory work, drawing and military drill. These additional exercises occupy not less than twelve hours per week, and in all give twenty-seven to thirty hours per week required in college exercises.

SPECIAL AND IRREGULAR STUDENTS.

The privilege of electing studies in the lower classes is not granted to young students nor to their parents.

The Faculty will assign a student, on admission, to that class of a prescribed course for which he is qualified, and for special reasons, approved by the Faculty, he may be permitted to become irregular.

Students qualified to prosecute the studies of the junior class, and those over twenty-one years of age, that are not candidates for a degree, are permitted to take, with the advice of the Faculty, the subjects of study for which they may on examination prove themselves qualified.

For an applicant to enter upon the study of Civil, Mining, or Electrical and Mechanical Engineering as a special or irregular student, he must have studied algebra through quadratics and logarithms, plane geometry, and plane trigonometry.

The professor in charge of a department will decide by examination whether a special student is prepared for admission to his class.

A student who does not take all the studies in a class of one of the degree courses, as prescribed in the catalogue, and is permitted to take an irregular course, will be assigned to a member of the Faculty, who will act as his special adviser, and when his course of study has been approved by the Faculty, no other change will be permitted without the endorsement of his adviser.

Regular students who fail to pass satisfactory final examinations in any one study become irregular students. They will be classed as regular students pursuing a course for a degree, whenever they can pass the examinations in those subjects in which they were found deficient.

Students, candidates for a degree, who are not in full standing in all the prescribed studies of a class, rank in the military department with that class in which they have the greatest number of studies, and their names are so placed in the catalogue.

ADMISSION TO HIGHER CLASSES.

At the beginning of each term a student in the sub-freshman class may, on application approved by the Faculty, be examined for admission to the freshman class in history, English, mathematics, and be admitted to the freshman class in those subjects in which he passes a satisfactory examination.

Students who have completed satisfactorily all the studies of the sophomore class, as prescribed in the catalogue, in any one of the regular degree courses, can enter, without condition, the junior class in any course, except in the general course, or the course in pharmacy, in which Latin is required.

Students who are admitted to the junior class from other institutions, on examinations in English, Latin, and mathematics, and who have not completed all the studies of the sophomore class, in order to graduate, will be required to complete the course in chemistry and history as taught in the sophomore class. In addition to these subjects, students who thus enter the junior class of the course in chemistry and agriculture, either from this or other institutions, will be required to complete the course in botany and physiology in the sophomore class.

COURSES OF INSTRUCTION.

The courses of study include the Physical, Chemical, and Natural Sciences, with their applications; Agriculture; Biology; Mechanics, Astronomy, Mathematics; Drawing; Civil, Electrical, Mechanical, and Mining Engineering; Physiology and Veterinary Science, Pharmacy; English, French, German, and Latin Languages; History, Political Economy; Mental and Moral Sciences.

The studies are arranged in regular courses so as to offer liberal and practical education as a preparation for the active pursuits of life.

There are seven degree courses for undergraduates, each leading to the degree of Bachelor of Science (B. Sc.) and requiring four years for its completion.

I. COURSE IN CHEMISTRY AND AGRICULTURE.

II. COURSE IN CIVIL ENGINEERING.

III. COURSE IN ELECTRICAL AND MECHANICAL ENGINEERING.

IV. COURSE IN MINING ENGINEERING.

V. GENERAL COURSE.

VI. COURSE IN PHARMACY.

VII. COURSE IN CHEMISTRY AND METALLURGY.

There are also three partial courses, each requiring two years for its completion:

VIII. TWO-YEAR COURSE IN AGRICULTURE.

IX. TWO-YEAR COURSE IN MECHANIC ARTS.

X. TWO-YEAR AND THREE-YEAR COURSES IN PHARMACY.

Course I. includes theoretical and practical instruction in those branches that relate to chemistry and agriculture, and is especially adapted to those who propose to devote themselves to agriculture or chemical pursuits.

Course II. includes the principles and applications of sciences that directly relate to civil engineering, and is adapted to those who expect to enter that profession.

Course III. includes, besides the general principles and applications of the sciences, a special course in the applications of electricity and mechanics, and is arranged for the profession of electrical and mechanical engineering.

Course IV. includes theoretical and practical instruction in geology, mineralogy, chemistry, civil and electrical engineering, as applied to mines; mapping, exploration; boring; ventilation; timbering, and all the operations pertaining to the profession of mining engineering.

Course V. has been arranged to give a general and less technical education in subjects of science and language to meet the wants of those students who have selected no definite vocation in life, as well as of those who propose ultimately to engage in teaching or in some commercial or professional business.

Course VI. includes, besides the general education of course IV. in the lower classes, a special course in pharmacy and chemistry, and is adapted to those who expect to become pharmacists, manufacturing chemists, or to enter upon the study of medicine.

Course VII. provides for thorough theoretical and practical instruction in pure and technical chemistry and metallurgy, and in the scientific branches relating thereto. Students taking this course also pursue the study of German or French during the Junior and Senior years, and are thus prepared to utilize for reference the scientific journals and works published in those languages.

Courses VIII. IX. and X. have been arranged for the benefit of those students who, for reasons satisfactory to themselves, are unable to continue at college four years and to take one of the regular degree courses.

A student who completes satisfactorily all the work of the senior class in a department, including the laboratory work, will be awarded a certificate of proficiency in said subject.

Students who complete either of the two-year courses will, on passing a satisfactory examination, receive certificates indicating their attainments.

A student who completes the work of the three-year course in pharmacy and submits a satisfactory thesis will be granted a certificate as Pharmaceutical Chemist.

No degree or certificate of proficiency will be given in any course unless the applicant has passed a satisfactory examination in elementary English. Every candidate for a degree will be required to stand this special examination during the second term of the Senior year.

Declamations and themes or orations are required of all regular students pursuing courses leading to a degree.

POST-GRADUATE COURSES.

A more extended post-graduate curse of study may be taken by a graduate of this College or of any other institution of equal grade. The completion of a course which leads to a post-graduate degree of Master of Science requires one year's residence at the College, spent in the satisfactory prosecution of a course of study, with such laboratory work as may be approved by the Faculty.

The candidate must also present to the Faculty a satisfactory thesis showing independent investigation upon some subject pertaining to his course, and must pass an examination, at the close of each term, on the course of study prescribed, in which he must attain a grade of 75 per cent. The examination is written, and also oral in the presence of the Faculty.

The subject of the thesis must be submitted to the Faculty for approval prior to January 1st. and the thesis given to the professor by May 1st.

Applicants for a post-graduate degree and special students in post-senior studies are subject to the same general regulations as other students, and pay the same fees, but are exempt from all military duty.

The following courses are prescribed for the degree named:

1. *Master of Science.*—Studies in three departments, in two of which the candidate must have previously completed the full course of the senior class; or in special cases, with the approval of the Faculty, a student may devote his full time to work in two departments, in each of which he has completed the full senior course.

2. *Master of Science in Pharmacy.*—Pharmacy and Chemistry.

3. *Master of Science in Civil Engineering.*—Civil Engineering, mathematics, and analytical mechanics.

4. *Master of Science in Electrical and Mechanical Engineering.*—Electrical Engineering, Mechanical Engineering.

5. *Master of Science in Mining Engineering.*—Students who have received the degree of B. Sc. in engineering, mining, civil, or electrical and mechanical, or in the course of chemistry and metallurgy, or who have prosecuted an equivalent course of study, can enter upon a special course of mining engineering, which includes the following subjects of study:

Industrial Chemistry, Analytic Chemistry, Assaying, Reduction of Ores, Mineralogy, Economic Geology, with practical work in the field, Mining Machinery, with the application of steam and electricity to the various operations connected with the exploitation of mines.

The student, if a candidate for a degree, will also be required to prosecute the necessary studies in that course of engineering in which he has not graduated. This course of study will be under the charge of the professors in the different engineering departments, the professor of Chemistry, and the professor of Mining Engineering and Geology.

Special Students in Post-Senior Studies.—Students who are not graduates, but are qualified in special subjects to prosecute post-senior studies, and desire to prepare themselves more thoroughly for professional or special work in any one of the departments of engineering, in chemistry or pharmacy, veterinary science, or other subjects in which instruction is given, may, when qualified, with approval of the Faculty, enter this higher department of study and have all the privileges of post-graduate students.

A certificate of proficiency will be given when any one subject of a post-graduate course is satisfactorily completed.

Two degrees will not be given the same year.

PROFESSIONAL DEGREES.

The professional degree of Civil Engineer, Electrical Engineer, Mechanical Engineer or Mining Engineer, will be given four years after receiving the degree of Master of Science, provided two years of the intervening time have been spent in a responsible position in practical engineering work in that department in which the degree of Master of Science was received, and an approved thesis is submitted to the Faculty, with a report of the character of the work done. Uüder the same regulations the professional degrees enumerated above may be given eight years after receiving the degree of Bachelor of Science, provided four years have been spent in practical work in the department in which one receives this degree.

SPECIAL ONE-YEAR COURSE IN AGRICULTURE.

Young men over twenty-one years of age who desire to study agriculture will be permitted, without examination, to enter any class under the professor of agriculture, and will be excused from reciting in any other class, from military duty, and from all other college duties; but will be under the general college regulations, and will be required to have their time fully occupied.

They may attend the lectures in agriculture in all the classes and engage in the practical work at the experiment station, in the field, stock-yard, dairy, garden, orchard, vineyard, etc., and may thus, in one year, acquire valuable practical knowledge of scientific agriculture.

LABORATORY INSTRUCTION.

NOTE—Special work in English or History may be taken by students in the general course as a substitute for laboratory work.

Laboratory instruction constitutes an important feature in the course of education provided for the students of this institute, and as far as possible all students are required to enter upon laboratory work in some one department.

Laboratory instruction and practical work are given in the following departments:

I. CHEMISTRY.

II. CIVIL ENGINEERING, FIELD WORK, SURVEYING, ETC.

III. AGRICULTURE.

IV. Botany.
V. Mineralogy.
VI. Biology.
VII. Technical Drawing.
VIII. Mechanic Arts.
XI. Physics.
X. Electrical Engineering.
XI. Mechanical Engineering.
XII. Mining Engineering, Mapping, Field Work, Etc.
XIII. Physiology and Veterinary Science.
XIV. Pharmacy.
XV. Horticulture.

I. COURSE IN CHEMISTRY AND AGRICULTURE.

The numerals opposite the subjects indicate the number of hours per week.

FRESHMAN CLASS.

First Term.	*Second Term.*	*Third Term.*
5. English.	5. English.	5. English.
2. History.	2. History.	3. History.
5. Mathematics.	5. Mathematics.	5. Mathematics.
3. Elementary Physics.	3. Elementary Physics.	2. Agriculture.
3. Drawing.	3. Drawing.	3. Drawing.
6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y.
3. Military Drill.	3. Military Drill.	3. Military Drill.

SOPHOMORE CLASS.

First Term.	*Second Term.*	*Third Term.*
3. English.	3. English.	3. English.
3. History.	3. History.	3. Botany.
5. Mathematics.	5. Mathematics.	5. Mathematics.
3. General Chemistry.	3. General Chemistry.	3. General Chemistry.
2. Agriculture.	2. Agriculture.	2. Agriculture.
3. Drawing.	3. Drawing.	3. Drawing.
2. Physiology.	2. Physiology.	2. Physiology.
2. Chemical Lab'y.	2. Chemical Lab'y.	2. Chemical Lab'y.
6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y.	3. Military Drill.
3. Military Drill.	3. Military Drill.	4. Agricultural Lab'y.
4. Agricultural Lab'y.	4. Agricultural Lab'y.	4. Botanical Lab'y.
		2. Horticultural Lab'y.

JUNIOR CLASS.

First Term.	*Second Term.*	*Third Term.*
3. English (a).	3. English (a).	3. English (a).
3. Physics.	3. Physics.	3. Physics.
2. Agricultural Chem.	2. Agricultural Chem.	3. Industrial Chemistry.
2. Agriculture.	2. Agriculture.	3. Horticulture.
2. Botany.	2. Botany.	2. Botany.
1. Military Tactics.	3. Horticulture.	1. Military Tactics.
2. Veterinary Science.	1. Military Tactics.	2. Veterinary Science.
3. Clinical Lab'y.	2. Veterinary Science.	3. Clinical Lab'y.
6. Chemical Lab'y.	3. Clinical Lab'y.	6. Chemical Lab'y.
2. Botanical Lab'y.	6. Chemical Lab'y.	2. Botanical Lab'y.
2. Agricultural Lab'y.	2. Botanical Lab'y.	4. Horticultural Lab'y.
3. Military Drill.	4. Horticultural Lab'y.	3. Military Drill.
	2. Agricultural Lab'y.	
	3. Military Drill.	

SENIOR CLASS.

First Term.	*Second Term.*	*Third Term.*
2. English Literature.	2. Political Econ. (b).	2. Political Economy.
2. Mental Science (c).	2. Mental Science (c).	2. Mental Science (c).
2. Physics.	2. Physics.	2. Astronomy.
2. Geology.	2. Geology.	2. Geology.

2. Botany.	2. Botany.	2. Botany.
2. Agriculture.	2. Agriculture.	2. Agriculture.
1. Military Science.	1. Military Science.	1. Military Science.
6. Chemical Lab'y.	6. Chemical Lab'y.	6. Chemical Lab'y.
2. Veterinary Science.	2. Veterinary Science.	2. Veterinary Science.
3. Clinical Lab'y.	3. Clinical Lab'y.	3. Clinical Lab'y.
4. Botanical Lab'y.	4. Botanical Lab'y.	4. Botanical Lab'y.
2. Agric. Lab'y. (1, 2).	2. Agric. Lab'y. (1, 2).	

(a) French or German may be substituted.

(b) Begins Feb. 15th. (c) German or French may be substituted.

II. COURSE IN CIVIL ENGINEERING.

The numerals opposite the subjects indicate the number of hours per week.

FRESHMAN CLASS.

First Term.	*Second Term.*	*Third Term.*
5. English.	5. English.	5. English.
2. History.	2. History.	3. History.
5. Mathematics.	5. Mathematics.	5. Mathematics.
3. Elementary Physics.	3. Elementary Physics.	2. Agriculture.
3. Drawing.	3. Drawing.	3. Drawing.
6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y.
3. Military Drill.	3. Military Drill.	3. Military Drill.

SOPHOMORE CLASS.

First Term.	*Second Term.*	*Third Term.*
3. English.	3. English.	3. English.
3. History.	3. History.	3. Elem't'y. Mechanics.
5. Mathematics.	5. Mathematics.	5. Mathematics.
3. General Chemistry.	3. General Chemistry.	3. General Chemistry.
2. Agriculture (b).	2. Agriculture (b).	2. Agriculture (b).
2. Physiology.	2. Physiology.	2. Physiology.
3. Drawing.	3. Drawing.	3. Drawing (a).
6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y.
2. Chemical Lab'y.	2. Chemical Lab'y.	2. Chemical Lab'y.
3. Military Drill.	3. Military Drill.	3. Military Drill.

JUNIOR CLASS.

First Term.	*Second Term.*	*Third Term.*
3. English, French or German.	3. English, French or German.	3. English, French or German.
3. Physics.	3. Physics.	3. Physics.
5. Mathematics.	5. Mathematics.	5. Mathematics.
5. Civil Engineering.	5. Civil Engineering.	5. Civil Engineering.
5. Drawing.	5. Drawing.	5. Drawing.
1. Military Tactics.	1. Military Tactics.	1. Military Tactics.
6. Lab'y. Mechanic Arts (c).	6. Lab'y. Mechanic Arts (c).	6. Lab'y. Mechanic Arts (c).
1. Field Work, Engineering.	1. Field Work, Engineering.	1. Field Work, Engineering.
3. Military Drill.	3. Military Drill.	3. Military Drill.

SENIOR CLASS.

First Term.	*Second Term.*	*Third Term.*
2. English Literature, (d).	2. Political Economy, (d).	2. Political Economy, (d).
2. Physics.	2. Physics.	2. Astronomy.
2. Geology.	2. Geology.	2. Geology.
3. Mathematics.	3. Mathematics.	3. Mathematics.
5. Civil Engineering.	5. Civil Engineering.	5. Civil Engineering.
5. Drawing.	5. Drawing.	5. Drawing.
1. Military Science.	1. Military Science.	1. Military Science.
4. Mech. Eng. Lab'y. Field Work, Engineering.	4. Mech. Eng. Lab'y. Field Work, Engineering.	4. Mech. Eng. Lab'y. Field Work, Engineering.

(a) Perspective Drawing, or Mechanical Drawing.

(b) Physical Laboratory may be substituted.

(c) Or Mineralogy.

(d) French or German may be substituted.

III. COURSE IN ELECTRICAL AND MECHANICAL ENGINEERING.

In Freshman and Sophomore classes the same studies are prescribed as in Course II in Civil Engineering.

JUNIOR CLASS.

First Term.	*Second Term.*	*Third Term.*
3. English, French or German.	3. English, French or German.	3. English, French or German.
3. Physics.	3. Physics.	3. Physics.
5. Mathematics.	5. Mathematics.	5. Mathematics.
4. Electrical Engineering.	4. Electrical Engineering.	4. Electrical Engineering.
3. Mechanical Engineering.	3. Mechanical Engineering.	3. Mechanical Engineering.
4. Mechanical Drawing.	4. Mechanical Drawing.	4. Mechanical Drawing.
4. Electrical Lab'y.	4. Electrical Lab'y.	4. Electrical Lab'y.
6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y.
1. Military Tactics.	1. Military Tactics.	1. Military Tactics.
3. Military Drill.	3. Military Drill.	3. Military Drill.

SENIOR CLASS.

First Term.	*Second Term.*	*Third Term.*
2. English Literature, (a).	2. Political Economy, (a).	2. Political Economy, (a).
2. Physics.	2. Physics.	2. Astronomy.
2. Materials of Machines	2. Indicator Practice.	2. Pumping Machinery
3. Mathematics.	3. Mathematics.	3. Mathematics.
5. Electrical Engineering.	5. Electrical Engineering.	5. Electrical Engineering.

5. Mechanical Engineering.	5. Mechanical Engineering.	5. Mechanical Engineering.
2. Electrical Designing.	2. Electrical Designing.	2. Electrical Designing.
6. Electrical Lab'y.	6. Electrical Lab'y.	6. Electrical Lab'y.
4. Mech. Eng. Lab'y.	4. Mech. Eng. Lab'y.	4. Mech. Eng. Lab'y.
1. Military Science	1. Military Science.	1. Military Science.

(a) French or German may be substituted.

IV. COURSE IN MINING ENGINEERING.

In Freshman and Sophomore classes the same studies are prescribed as in Course II. in Civil Engineering.

JUNIOR CLASS.

First Term.	*Second Term.*	*Third Term.*
3. English, French or German.	3. English, French or German.	3. English, French or German.
3. Physics.	3. Physics.	2. Astronomy.
5. Mathematics.	5. Mathematics.	5. Mathematics.
5. Mining Engineering.	5. Mining Engineering.	5. Mining Engineering.
3. Drawing.	5. Drawing.	5. Drawing.
2. Mineralogy.	4. Lab'y. Mineralogy.	4. Lab'y. Mineralogy.
4. Lab'y. Mineralogy.	6. Machine Shop.	6. Machine Shop.
6. Machine Shop.	3. Field Work.	3. Field Work.
3. Field Work.	1. Military Tactics.	1. Military Tactics.
1. Military Tactics.	3. Military Drill.	3. Military Drill.
3. Military Drill.		

SENIOR CLASS.

First Term.	*Second Term.*	*Third Term.*
2. English Literature, (a).	2. Political Economy, (a).	2. Political Economy, (a).
2. Physics.	2. Physics.	2. Physics.
2. Geology.	2. Geology.	2. Geology.
3. Mathematics.	3. Mathematics.	3. Mathematics.
3. Mining Engineering.	3. Mining Engineering.	3. Mining Engineering.
2. Electrical Engineering.	2. Electrical Engineering.	2. Metallurgy.
2. Metallurgy.	2. Metallurgy.	3. Drawing.
3. Drawing.	3. Drawing.	1. Military Science.
1. Military Science.	1. Military Science.	8. Chem. Lab'y. and Assaying.
8. Chem. Lab'y. and Assaying.	8. Chem. Lab'y. and Assaying.	3. Field Work.
3. Field Work.	3. Field Work.	

(a) French or German may be substituted.

V. CHEMISTRY AND METALLURGY.

The numerals opposite the subjects indicate the number of hours per week. In the Freshman and Sophomore classes the same studies are prescribed as in either Course I. in Agriculture and Chemistry, or in Course V. in General Course.

JUNIOR CLASS.

First Term.	*Second Term.*	*Third Term.*
3. English.	3. English.	3. English.
3. Physics.	3. Physics.	3. Physics.
4. Industrial Chemistry.	4. Industrial Chemistry.	4. Industrial Chemistry.
2. Organic Chemistry.	2. Organic Chemistry.	2. Organic Chemistry.
4.*Mineralogy (Lab'y).	4. Mineralogy (Lab'y.)	4. Mineralogy (Lab'y.)
2. Descrip. Mineralogy.	2. Economic Geology.	3. Economic Geology.
1. Military Science.	1. Military Science.	1. Military Science.
9. Chemical Lab'y.	9. Chemical Lab'y.	9. Chemical Lab'y.
3. Military Drill.	3. Military Drill.	3. Military Drill.

SENIOR CLASS.

First Term.	*Second Term.*	*Third Term.*
2. English Literature.	2. Political Economy.	2. Political Economy.
2. Physics.	2. Physics.	2. Astronomy.
3. German or French.	3. German or French.	3. German or French.
2. Geology.	2. Geology.	2. Geology.
3. Metallurgy and Engineering Chem.	3. Metallurgy and Engineering Chem.	3. Metallurgy and Engineering Chem.
2. Analytical Chemistry.	2. Analytical Chemistry.	2. Analytical Chemistry.
1. Military Science.	1. Military Science.	1. Military Science.
9. Chemical Lab'y. and Assaying.	9. Chemical Lab'y. and Assaying.	9. Chemical Lab'y. and Assaying.
3. Metallurgical Designing.	3. Metallurgical Designing.	3. Metallurgical Designing.

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*Mechanic Art Lab'y. may be substituted.

VI. GENERAL COURSE.

The numerals opposite the subjects indicate the number of hours per week.

FRESHMAN CLASS.

First Term.	*Second Term.*	*Third Term.*
3. English.	3. English.	3. English.
2. History.	2. History.	3. History.
4. Latin.	4. Latin.	3. Latin.
5. Mathematics.	5. Mathematics.	5. Mathematics.
3. Drawing.	3. Drawing.	2. Agriculture.
6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y.	3. Drawing.
3. Military Drill.	3. Military Drill.	6. Mechanic Art Lab'y.
		3. Military Drill.

SOPHOMORE CLASS.

First Term.	*Second Term.*	*Third Term.*
5. Latin.	5. Latin.	5. Latin.
3. History.	3. History.	3. Botany or Elementary Mechanics.
5. Mathematics.	5. Mathematics.	5. Mathematics.
3. General Chemistry.	3. General Chemistry.	3. General Chemistry.
3. Drawing.	3. Drawing.	3. Drawing.
6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y. or 4. Botanical Lab'y.
2. Chemical Lab'y.	2. Chemical Lab'y.	2. Chemical Lab'y.
3. Military Drill.	3. Military Drill.	3. Military Drill.

JUNIOR CLASS.

First Term.	*Second Term.*	*Third Term.*
3. English.	3. English.	3. English.
3. Physics.	3. Physics.	3. Physics.
3. Mathematics.	3. Mathematics.	3. Mathematics.
3. French.	3. French.	3. French.
3. German.	3. German.	3. German.
3. Latin.	3. Latin.	3. Latin.
1. Military Tactics.	1. Military Tactics.	1. Military Tactics.
6. Lab'y. Work (a).	6. Lab'y. Work (a).	6. Lab'y. Work (a).
3. Military Drill.	3. Military Drill.	3. Military Drill.

SENIOR CLASS.

First Term.	*Second Term.*	*Third Term.*
2. English.	2. Political Economy.	2. Political Economy.
2. Mental Science.	2. Mental Science.	2. Mental Science.
2. Physics.	2. Physics.	2. Astronomy.
2. Geology.	2. Geology.	2. Geology.
3. French.	3. French.	3. French.
3. German.	3. German.	3. German.
2. Latin.	2. Latin.	2. Latin.
1. Military Science.	1. Military Science.	1. Military Science.
6. Lab'y. Work (a).	6. Lab'y. Work (a).	6. Lab'y. Work (a).

(a) The student may elect the laboratory of any department for which he may be qualified.

VII. COURSE IN PHARMACY.

The numerals opposite the subjects indicate the number of hours per week.

FRESHMAN CLASS.

First Term.	*Second Term.*	*Third Term.*
3. English.	3. English.	3. English.
2. History.	2. History.	3. History.
4. Latin.	4. Latin.	3. Latin.
5. Mathematics.	5. Mathematics.	5. Mathematics.

3. Drawing.	3. Drawing.	3. Drawing.
6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y.	2. Agriculture.
3. Military Drill.	3. Military Drill.	6. Mechanic Art Lab'y.
		3. Military Drill.

SOPHOMORE CLASS.

First Term.	*Second Term.*	*Third Term.*
5. Latin.	5. Latin.	5. Latin.
3. History.	3. History.	3. Botany.
5. Mathematics.	5. Mathematics.	5. Mathematics.
3. General Chemistry.	3. General Chemistry.	3. General Chemistry.
2. Physiology.	2. Physiology.	2. Physiology.
3. Drawing.	3. Drawing.	3. Drawing.
6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y. or 4. Botanical Lab'y.
2. Chemical Lab'y.	2. Chemical Lab'y.	2. Chemical Lab'y.
3. Military Drill.	3. Military Drill.	3. Military Drill.

JUNIOR CLASS.

First Term.	*Second Term.*	*Third Term.*
3. Physics.	3. Physics.	3. Physics.
6. Chemical Lab'y.	6. Chemical Lab'y.	6. Chemical Lab'y.
4. Botany.	4. Botany.	4. Botany.
3. English (a).	3. English (a).	3. English (a).
3. Pharmacy.	3. Pharmacy.	3. Pharmacy.
9. Pharmaceutical Lab'y.	9. Pharmaceutical Lab'y.	9. Pharmaceutical Lab'y.
4. Pharmacognosy.	4. Pharmacognosy.	4. Pharmacognosy.
1. Military Tactics.	1. Military Tactics.	1. Military Tactics.
3. Military Drill.	3. Military Drill.	3. Military Drill.

SENIOR CLASS.

First Term.	*Second Term.*	*Third Term.*
3. Bacteriology.	3. Bacteriology.	3. Materia Medica.
3. Bacteriology Lab'y.	3. Bacteriology Lab'y.	3. Urinalysis.
6. Chemical Lab'y.	6. Chemical Lab'y.	7. Toxicology.
2. Organic Chemistry.	2. Organic Chemistry.	2. Organic Chemistry.
5. Pharmacy.	5. Pharmacy.	5. Pharmacy.
15. Pharmaceutical Lab'y.	15. Pharmaceutical Lab'y.	15. Pharmaceutical Lab'y.
4. Pharmacognosy.	4. Pharmacognosy.	4. Pharmacognosy.
1. Military Science.	1. Military Science.	1. Military Science.

(a) French or German may be substituted.

VIII. TWO-YEAR COURSE IN MECHANIC ARTS.

FIRST YEAR.

First Term.	*Second Term.*	*Third Term.*
5. English.	5. English.	5. English.
2. History.	2. History.	3. History.
5. Mathematics.	5. Mathematics.	5. Mathematics.
3. Elementary Physics.	3. Elementary Physics.	2. Agriculture.
3. Drawing.	3. Drawing.	3. Drawing.
6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y.
3. Military Drill.	3. Military Drill.	3. Military Drill.

SECOND YEAR.

First Term.	*Second Term.*	*Third Term.*
3. English.	3. English.	3. English.
5. Mathematics.	5. Mathematics.	5. Mathematics.
3. Physics.	3. Physics.	3. Physics.
3. Drawing.	3. Drawing.	3. Drawing.
12. Mechanic Art Lab'y.	12. Mechanic Art Lab'y.	12. Mechanic Art Lab'y.
3. Military Drill.	3. Military Drill.	3. Military Drill.

IX. TWO-YEAR COURSE IN AGRICULTURE.

FIRST YEAR.

First Term.	*Second Term.*	*Third Term.*
3. English.	3. English.	3. English.
2. Pnysiology.	2. Physiology.	2. Physiology.
5. Mathematics.	5. Mathematics.	5. Mathematics.
3. Elementary Physics.	3. Elementary Physics.	2. Agriculture.
3. Drawing.	3. Drawing.	3. Drawing.
6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y.
3. Military Drill.	3. Military Drill.	3. Military Drill.
4. Practical Agriculture.	4. Practical Agriculture.	2. Horticulture.
3. Clinical Lab'y.	3. Clinical Lab'y.	4. Practical Agriculture.
		3. Clinical Lab'y.

SECOND YEAR.

First Term.	*Second Term.*	*Third Term.*
3. English.	3. English.	3. Botany.
4. Agriculture.	4. Agriculture.	4. Agriculture.
4. Practical Agriculture.	4. Practical Agriculture.	2. Practical Agriculture.
3. Chemistry.	3. Chemistry.	3. Chemistry.
2. Chemical Lab'y.	2. Chemical Lab'y.	2. Chemical Lab'y.
2. Veterinary Science.	2. Veterinary Science.	2. Veterinary Science.
3. Clinical Lab'y.	3. Clinical Lab'y.	3. Clinical Lab'y.
2. Horticulture.	2. Horticulture.	4. Horticulture.
2. Botany.	2. Botany.	2. Botany.
4. Botanical Lab'y.	4. Botanical Lab'y.	4. Botanical Lab'y.
3. Military Drill.	3. Military Drill.	3. Military Drill.

X. TWO-YEAR COURSE IN PHARMACY.

FIRST YEAR.

First Term.	*Second Term.*	*Third Term.*
3. General Chemistry.	3. General Chemistry.	3. General Chemistry.
2. Chemical Lab'y.	2. Chemical Lab'y.	2. Chemical Lab'y.
3. English.	3. English.	3. Botany.
2. Physiology.	2. Physiology.	2. Physiology.
3. Pharmacy.	3. Pharmacy.	3. Pharmacy.
4. Pharmacognosy.	4. Pharmacognosy.	4. Pharmacognosy.
6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y.	4. Botanical Lab'y.
3. Military Drill.	3. Military Drill.	3. Military Drill.

SECOND YEAR.

First Term.	*Second Term.*	*Third Term.*
5. Pharmacy.	5. Pharmacy.	5. Pharmacy.
5. Pharmacognosy.	5. Pharmacognosy.	5. Pharmacognosy.
15. Pharmaceutical Lab'y.	15. Pharmaceutical Lab'y.	15. Pharmaceutical Lab'y.
6. Chemical Lab'y.	6. Chemical Lab'y.	6. Toxicology.
6. Bacteriology.	6. Bacteriology.	3. Materia Medica.
4. Botany.	4. Botany.	4. Botany.
3. Military Drill.	3. Military Drill.	3. Military Drill.

XI. THREE-YEAR COURSE IN PHARMACY.

First Term.	*Second Term.*	*Third Term.*
20. Pharmaceutical Chemistry and Lab'y.	20. Pharmaceutical Chemistry and Lab'y.	20. Pharmaceutical Chemistry and Lab'y.
15. Chemistry and Chemical Lab'y.	15. Chemistry and Chemical Lab'y.	15. Chemistry and Chemical Lab'y.
3. Bacteriological Laby.	3. Bacteriological Laby.	3. Bacteriological Laby.

SCHEDULE OF EXERCISES.

HOURS	MONDAY.	TUESDAY.	WEDNESDAY.	THURSDAY.	FRIDAY.	SATURDAY.
I. 8–9	4. Algebra. 3. Latin. 2. Pharmacy. 2. Mech. Engineer'g. 2. Horticult. Lab'y. 1 and 2. Drawing. 1. Elec. Engineer'g. 1. Botany.	4. Geometry. 3. Agriculture. 3. Latin. 2. Mineralogy. 2. German. 2. Botany. 1 and 2. Drawing. 1. Elec. Engineer'g.	4. Algebra. 3. Latin. 2. Pharmacy. 2. Vet. Science. 2. Mech. Engineer'g. 1. Botany. 1 and 2. Drawing. 1. Elec. Engineer'g.	4. Geometry. 3. Latin. 2. German. 2. Botany. 2. Mech. Engineer'g. 2. Mineralogy. 1 and 2. Drawing. 1. Elec. Engineer'g.	4. Algebra. 3. Latin. 2. Pharmacy. 2. Veterinary Sci. 1 and 2. Drawing. 1. Elec. Engineer'g. 1. German.	Exercises in Elocution.
12–1	3. Mathematics. 2. English. 1. Elec. Designing. 1. Agriculture. 1. French. 1. Pharmacy. 1. Eng. Chem. and Metallurgy.	1. Geology. 1. Pharmacy. 1. Mech. Engineer'g.	3. Mathematics. 2. German. 2. Anal. Chemistry. 1. Pharmacy. 1. Eng. Chem. and Metallurgy. 1. Elec. Designing.	1. Geology. 1. Pharmacy. 1. Mech. Engineer'g.	[illegible] 3. Mathematics. 2. Military Tactics. 1. Elec. Designing. 1. Pharmacy.	Chemical Lab'y. Electrical Lab'y. Physical Lab'y. Veterinary Clinics. Field Civil and Mining Engineering.
P. M. 2–4	4. Mechanic Arts. 3. Field Work. Agr. 3. Botanical Lab. (3.) 1 and 2. Lab. Chem. 1 and 2. Field Work, Engineering. 1 and 2. Mach. Work. 1 and 2. Elec. Lab'y. Work. Physical Lab'y. 1. Mech. Lab'y.	3. Mechanic Arts. 3. Botanical Lab. (3.) 2. Mineralogical Lab. 2. Agriculture (1, 2.) Military Drill (*). Elec. Lab'y. Work. 1 and 2. History.	4. Mechanic Arts. 3. Field Work, Agri. 3. Botanical Lab. (3.) 1 and 2. Lab'y. Chem. 1 and 2. Field Work, Engineering. 1 and 2. Mach. Work. Exercises in Eloc't'n. Elec. Lab'y. Work. Physical Lab'y. 1. Mech. Lab'y.	3. Mechanic Arts. 3. Botanical Lab. (3.) 2. Mineralogical Lab. Military Drill (*). Elec. Lab'y. Work. 1 and 2. History. 1. Agriculture (1, 2.)	4. Mechanic Arts. 3. Horticulture (3.) 2. French. 1 and 2. Lab. Chem. 1 and 2. Field Work, Engineering. 1 and 2. Mach. Work. Exercises in Eloc't'n. Elec. Lab'y. Work. Physical Lab'y. 1. Mech. Lab'y.	

Chapel services daily at 7:45 a. m. *From 4:30 to 5:30 p. m. (m.) Mining Engineering.

Numbers prefixed denote classes—1 denotes senior; 2, junior, etc. Numbers affixed—(1), (2), (3), denote terms.

SCHEDULE OF EXERCISES.

HOURS	MONDAY.	TUESDAY.	WEDNESDAY.	THURSDAY.	FRIDAY.	SATURDAY.
I. 8–9	4. Algebra. 3. Latin. 2. Pharmacy. 2. Mech. Engineer'g. 2. Horticult. Lab'y. 1 and 2. Drawing. 1. Elec. Engineer'g. 1. Botany. 1. German. 1. Bacteriology.	4. Geometry. 3. Agriculture. 3. Latin. 2. Mineralogy. 2. German. 2. Botany. 1 and 2. Drawing. 1. Elec. Engineer'g.	4. Algebra. 3. Latin. 2. Pharmacy. 2. Vet. Science. 2. Mech. Engineer'g. 1. Botany. 1 and 2. Drawing. 1. Elec. Engineer'g. 1. German.	4. Geometry. 3. Latin. 2. German. 2. Botany. 2. Mech. Engineer'g. 2. Mineralogy. 1 and 2. Drawing. 1. Elec. Engineer'g.	4. Algebra. 3. Latin. 2. Pharmacy. 2. Veterinary Sci. 1 and 2. Drawing. 1. Elec. Engineer'g. 1. German.	Exercises in Elocution.
II. 9–10	4. English. 3. Chemistry. 2. Civ. Engineer'g. 2. Elec. Engineer'g. 2. Mining Engineer'g. 2. Latin. 2. Horticulture (2-3). 1. Calculus. 1. Botany (Lab'y.) 1. Bacteriology.	4. History. 3. Physiology. 2. Civ. Engineer'g. 2. Elec. Engineer'g. 2. Mining Engineer'g. 2. Botanical Lab'y. 1. Chemistry. 1. French. 1. Agriculture.	4. English. 3. Chemistry. 2. Civil Engineer'g. 2. Elec. Engineer'g. 2. Mining Engineer'g. 2. Latin. 2. Horticulture (2-3) 1. Calculus. 1. Pharmacognosy. 1. Botany.	4. History. 3. Agriculture. 2. Civil Engineer'g. 2. Botany. 2. Elec. Engineer'g. 2. Mining Engineer'g. 1. Chemistry. 1. French. 1. Veterinary Sci.	4. English. 3. Chemistry. 2. Civil Engineer'g. 2. Latin. 2. Mech. Drawing. 2. Mining Engineer'g 2. Horticulture (2-3). 1. Calculus. 1. Veterinary Sci.	Military Drill.
III. 10–11	3. English. 2. Physics. 1. Civil Engineer'g. 1. Botany (Lab'y.) 1. Latin. 1. Mech. Engineer'g. 1. Bacteriology. 1. Mining Engineer'g. 4. Agriculture (3.)	1. Mental Science. 4. English. 3. Botany (Lab. 3.) 3. History (1, 2.) 2. French. 2. Mech. Drawing. 2. Botany. 1. Elec. Engineer'g. (m.) 1. Machine Design. 1. Pharmacognosy. 1. Civil Engineer'g. 1. Mech. Engineer'g.	3. English. 2. Physics. 1. Latin. 1. Civil Engineer'g. 1. Mech. Engineer'g. 1. Botany (Lab'y.) 1. Mining Engineer'g 4. Agriculture (3.)	1. Mental Science. 4. English. 3. History (1, 2.) 3. Botany (3.) 2. French. 2. Botany. 1. Civil Engineer'g. 1. Elec. Engineer'g. (m.) 1. Mech. Engineer'g. 1. Machine Design. 1. Pharmacognosy. 2. Practical Mach'y.	3. English. 2. Physics. 1. Civil Engineer'g. 1. Pharmacognosy. 1. History (3.) 1. Mech. Engineer'g.	Mechanic Arts. Chemical Lab'y. Electrical Lab'y. Physical Lab'y. Veterinary Clinics. Field Civil and Mining Engineering.
IV. 11–12	4. Agriculture (3.) 4. Physics (1-2.) 4. Mechanic Arts. 4. Latin (1, 2.) 3. Drawing. 2. Mathematics. 2. Chemistry. 2. Pharmacognosy. 1. English (1, 2.) 1. Pol. Econ. (2, 3.)	4. Latin. 3 Drawing. 2. Horticulture. 2. Mathematics. 2. Chemistry Org. 2. Pharmacognosy. 1. Physics.	4. Physics (1, 2.) 4. Latin (1, 2.) 4. Mechanic Arts. 3. History (1, 2.) 3. Botany (3.) 2. Mathematics. 2. Chemistry. 2. Pharmacognosy. 1. English (1, 2.) 1. Pol. Econ. (2, 3.) 4. Agriculture (3.)	4. Latin. 3. Physiology. 2. Horticulture. 2. Mathematics. 2. Chemistry Org. 1. Physics.	4. Physics (1, 2.) 4. Mechanic Arts. 4. Latin. 3. Drawing. 2. Mathematics. 2. Chemistry. 2. Pharmacognosy. 1. Military Science.	1. Pharmaceutical Lab'y. 3. Mechanic Arts. Chemical Lab'y. Electrical Lab'y. Physical Lab'y. Veterinary Clinics. Field Civil and Mining Engineering.
V. 12–1	4. Drawing. 4. Mechanic Arts. 3. Mathematics. 2. English. 1. Elec. Designing. 1. Agriculture. 1. French. 1. Pharmacy. 1. Eng. Chem. and Metallurgy.	3. Mathematics. 2. English. 1. Geology. 1. Pharmacy. 1. Mech. Engineer'g.	4. Drawing. 4. Mechanic Arts. 3. Mathematics. 2. German. 2. Anal. Chemistry. 1. Pharmacy. 1. Eng. Chem. and Metallurgy. 1. Elec. Designing.	3. Mathematics. 2. English. 1. Geology. 1. Pharmacy. 1. Mech. Engineer'g.	4. Drawing. 4. Mechanic Arts. 3. Mathematics. 2. Military Tactics. 1. Elec. Designing. 1. Pharmacy.	3. Mechanic Arts. Chemical Lab'y. Electrical Lab'y. Physical Lab'y. Veterinary Clinics. Field Civil and Mining Engineering.
P. M. 2–4	4. Mechanic Arts. 3. Field Work. Agr. 3. Botanical Lab. (3.) 1 and 2. Lab. Chem. 1 and 2. Field Work, Engineering. 1 and 2. Mach. Work. 1 and 2. Elec. Lab'y. Work. Physical Lab'y. 1. Mech. Lab'y.	3. Mechanic Arts. 3. Botanical Lab. (3.) 2. Mineralogical Lab. 2. Agriculture (1, 2.) Military Drill (*). Elec. Lab'y. Work. 1 and 2. History.	4. Mechanic Arts. 3. Field Work, Agri. 3. Botanical Lab. (3.) 1 and 2. Lab'y. Chem. 1 and 2. Field Work, Engineering. 1 and 2. Mach. Work. Exercises in Eloc't'n. Elec. Lab'y. Work. Physical Lab'y. 1. Mech. Lab'y.	3. Mechanic Arts. 3. Botanical Lab. (3.) 2. Mineralogical Lab. Military Drill (*). Elec. Lab'y. Work. 1 and 2. History. 1. Agriculture (1, 2.)	4. Mechanic Arts. 3. Horticulture (3.) 2. French. 1 and 2. Lab. Chem. 1 and 2. Field Work, Engineering. 1 and 2. Mach. Work. Exercises in Eloc't'n. Elec. Lab'y. Work. Physical Lab'y. 1. Mech. Lab'y.	

Chapel services daily at 7:45 a. m. *From 4:30 to 5:30 p. m. (m.) Mining Engineering.

Numbers prefixed denote classes—1 denotes senior; 2, junior, etc. Numbers affixed—(1), (2), (3), denote terms.

DEPARTMENTS OF INSTRUCTION

ENGLISH AND POLITICAL ECONOMY.

PRESIDENT THACH.

PROFESSOR WIATT.

INSTRUCTOR WEBB.

ASSISTANT SCROGGS.

ASSISTANT DOWDELL.

OBJECTS AND METHODS.

In this department the students pursue a systematic course in the English language and literature.

Language is the avenue of approach to all knowledge; the interpretation of words is the fundamental process in education of whatsoever kind. A full course in English is, therefore, considered especially important in the technical courses of study that do not include the ancient classics. Accordingly, the course in English is continued throughout the four years of the college curriculum, three hours a week, and is made obligatory upon all students, with the exception of those pursuing the first two years of the course in Latin. In this extended drill in the grammar and literature of the English language, the endeavor is made to afford a training somewhat equivalent to the ordinary course in the classical languages.

In view of the ill preparation in languages, especially in their mother tongue, exhibited by many of the candidates for admission to the freshman class, it is deemed advisable, for the sake of honest work, to devote a portion of the first year to grounding such students in the principles of grammar.

Especial attention is given to the study of the writings themselves of leading American and British authors, since direct contact with literature is considered more profitable than information merely *about* literature.

All students before classed as regular in any course leading to a degree must conform to all the requirements in English for admission as set forth on page 38.

For requirements as to thesis and as to proficiency in English for certificates and degrees, see pages 46 and 108.

Declamations and themes (or orations) are required of *all regular* students. For details see below.

COURSES OF STUDY.

Freshman Class—Five hours a week; study of grammar, the principles of special and general composition, with frequent brief papers illustrating the laws studied; study of American authors; Irving, Hawthorne, Holmes, Poe, Bryant, Longfellow.

Swinton's English Grammar, Lockwood & Emerson's Rhetoric, Kellogg & Reed's English Language.

Sophomore Class—Three hours a week; study of style, analysis of selections of prose and poetry; frequent essays on historic and literary themes.

Rhetoric, Genung's Rhetorical Analysis, Syle's From Milton to Tennyson.

Junior Class—Three hours a week; lectures on the history of English literature, critical study of English classics, essays.

Pancoast's History of English Literature; Pancoast's Standard English Poems, Macaulay, Carlyle, DeQuincey, etc.

Senior Class—Two hours a week, first term. Principles of Criticism, Shakespeare's Julius Cæsar, Hamlet, etc. Dowden's Shakespeare, etc.

THEMES AND ORATIONS.

Theory without practice is as fruitless in the study of English as in any other department of study. Practical work is indispensable to the successful teaching of English.

Besides numerous brief papers illustrative of the subject matter of the text-books, set themes or orations are *required of all students;* For the freshman class *ten* themes a year; *ten* for the sophomore; for the senior and junior classes, *three* orations each.

DECLAMATION.

The old practice of committing pieces to memory for "speaking" is cultivated as a means, both of training in the art of thinking on the feet, and of storing the mind with the diction of finished specimens of English style.

The sophomore class is heard weekly throughout the year in sections of ten, once for an hour and a half in rehearsal, afterwards in the study-hall before the body of students.

The senior and junior classes also deliver their orations in public.

PHILOSOPHY AND POLITICAL ECONOMY.

The senior class pursue the study of intellectual science, twice a week, through the year; and political economy twice a week, during the last two terms. The instruction in this department is by lectures in combination with text-books.

Intellectual Science—Psychology defined. Value in relation to moral culture, education and Natural Sciences. The relation of the soul to matter. The arguments of the Materialist. Counter arguments. The Faculties of the Soul. The nature of Consciousness. Sense Perception. Fancy. Imagination. Nature of Conceptions. Language. Judgment. Reasoning. Deduction. Induction, etc. *Porter's Intellectual Science.*

Political Economy—Value; production of wealth; land; labor; capital; division of labor; distribution of wealth; wages; trades-union; tariff; education, etc. *Lectures by Professor. Ely's Outlines of Economics.*

A Post-graduate course has also been established in English. The following courses have been given:

(1) *Shakespeare*—Hamlet, Othello, Macbeth, Merchant of Venice, As You Like It, Henry IV., Part I., Richard III., King John.

(2) *Dryden—Poetical Works* (Christie); *Essay on Dramatic Poesy* (Thomas Arnold); *Essay on Satire, etc.,* (Yonge); Saintsbury's *Life of Dryden.*

Pope—Poetical Works (Ward); *Satires* (Pattison); Stephen's *Life of Pope;* Gosse's *From Shakespeare to Pope* and 18*th Century Literature.*

(3) *English Literature of the Eighteenth Century;* Addison, Pope, Gray, Goldsmith, Burns, Cowper, Burke.

(4) *American Literature*: Longfellow, Lowell, Poe.

(5) *The Rise and Development of the English Essay*: Bacon, Addison, Steele, Swift, Johnson, Goldsmith, Macaulay, DeQuincey, Lamb, Carlyle.

(6) *Milton—Poetical Works* (Masson); Life, Pattison, Brooke.

MATHEMATICS.

PROFESSOR SMITH.

ASSOCIATE PROFESSOR CRENSHAW.

INSTRUCTOR PATRICK.

ASSISTANT HILL.

The subjects taught in the different classes in this department are as follows:

FRESHMAN CLASS. Algebra through quadratic equations and series, geometry (seven books Wentworth), original solutions of exercises.

SOPHOMORE CLASS. Spherical geometry, plane and spherical trigonometry, triangulation, surveying, mensuration.

JUNIOR CLASS. Analytical geometry, descriptive geometry, differential calculus.

SENIOR CLASS. Differential and integral calculus.

Two objects are sought to be obtained: First, mental discipline; second, a thorough knowledge of the principles of pure mathematics and their practical applications.

Theoretical and practical instruction is given to the sophomore class in land surveying, mapping, plotting and computing areas, etc., also in the theory, adjustment and use of instruments, and triangulation.

The class, in sections of six or eight, devote three afternoons a week during the second and third terms to field practice.

The completion of this course, common to all students, lays the foundation for the pure and applied mathematics of the mechanical and engineering courses. Analytical geometry, descriptive geometry, and calculus are pursued in the engineering courses. Especial attention is given to their practical applications.

During the entire course, instruction in text-books is supplemented by lectures. Solutions of original practical problems are required of the student, to make him familiar with the application of principles and formulas.

TEXT-BOOKS.

Wentworth's Algebra, Wentworth's Geometry, Wentworth's Trigonometry, Wentworth's Surveying, Wentworth's Analytical Geometry, Faunce's Descriptive Geometry, Taylor's Calculus, Johnson's Differential Equations, Osborne's Problems, Peck's Determinants.

CIVIL ENGINEERING AND DRAWING.

PROFESSOR LANE.

ASSISTANT MORGAN.

The special studies in this department begin in the junior class, and require a good knowledge of algebra, geometry, trigonometry, and analytical mechanics. They are as follows:

Junior Class—Simple, compound, reversed and parabolical curves, turnouts and crossings, leveling, gradients, setting slope stakes, etc.

Special attention is paid in this class to the location, construction, drainage and maintenance of country roads; and the various pavements and foundations for the same.

Senior Class—Classification, appearances, defects, seasoning, durability and preservation of timber; classification and description of natural building stones; bricks and concretes; cast and wrought iron, steel and other metals; limes, cements, mortars and their manufacture; paints and other preservatives; classification of strains and a general mathematical discussion of same; joints and fastenings; solid and open built beams; classification, construction and mechanics of masonry; foundations on land and in water; bridges and roofs of different kinds, their construction and strains determined mathematically and graphically; common roads, their coverings, location and construction of railroads; navigable, irrigation and drainage canals; rivers and sea-coast improvements.

Theory and practice are combined in both classes.

TEXT-BOOKS.

Junior Class—Henck's Field Book for Railway Engineers, and Byrne's Highway Construction.

Senior Class—Wheeler's Civil Engineering and Von Ott's Graphic Statics.

DRAWING.

All of the students of the freshman and sophomore classes are required to take drawing; but only the students in civil engineering in the junior and senior classes.

The freshman class is taught linear drawing. The sophomore class is instructed in the principles of orthographic and isometric projections, shades, shadows, perspective and tinting. In the junior class the instruction embraces a more extended course in orthographic and isometric drawing, perspective, shades and tinting; also sketches of tools and machines, plans and elevations and cross-sections of buildings, and blue prints. The senior class makes topographical drawings, and drawings of machines, roofs, bridges, etc., to different scales, and blue prints. Plans, profiles and sections of railroad surveys complete the instruction in this department.

Freshman Class.—Kitchener's Geometrical Note Book, Davidson's Linear Drawing, and Davidson's Model Drawing.

Sophomore Class.—Davidson's Projections, Davidson's Practical Perspective, Keuffel & Esser's Alphabet.

Junior Class.—Davidson's Building Construction, Davidson's Drawing for Mechanics and Engineers, Keuffel & Esser's Alphabet.

Senior Class.—French, English and American plates belonging to the College, Keuffel & Esser's Alphabet.

HISTORY AND LATIN.

PROFESSOR PETRIE.

ASSISTANT DAVIS.

HISTORY.

In this department the aim is not so much to memorize facts as to understand them. Strong emphasis is laid on the fact that history is not a succession of isolated facts, but a progressive whole, each event being at once the cause and the effect of other events. The students are taught to investigate the growth of ideas and institutions, the rise and progress of great historical movements and the reciprocal influences of men and circumstances. Frequent use is made of diagrams, photographs, charts and maps, with which the department is well equipped. Instruction is given by text-books, lectures and class discussion, but a constant effort is made to stimulate to wider reading and research in the library.

In the freshman class, the subjects studied are the United States, Alabama, and England. The first term (two hours per week) is devoted to the history and government of the United States; the second term (two hours per week) to Alabama, and the third term (three hours per week) to the history of England.

In the sophomore class (three hours per week until March) the subject studied is general European history.

HISTORICAL LABORATORY.

In the junior and senior classes opportunity for special work in United States history is given those students of the General Course who elect it as laboratory work, and to any others who are properly qualified. The chief object kept in view is training in historical research and in the formation of independent but careful opinions based on the original sources of information, as well as on the standard authorities. Emphasis is laid on the importance of securing proper material for investigation and every incentive is given to the collection and use of new documents, papers and letters illustrative of Southern, and especially Alabama history.

The method of work is as follows: Informal lectures are given on important and suggestive points, as: The cause of the Revolution; the Constitutional Convention; the War of 1812; the Missouri Compromise; the Monroe Doctrine; Texas and Mexico; the Compromise of 1850; the Kansas Struggle; the Dred Scott Decision; Secession. After each lecture topics connected with it are assigned to the students with an outline of the points to be investigated. They report their results to the class and a discussion follows. The final results are collected by each student according to his own judgment in his note-book, which is then passed in to the professor for correction and suggestion.

Graduate students are expected to take part in the junior and senior discussions and in addition will meet with the professor for conference in regard to their work. Those who take history as their major subject are expected to devote a large part of their time to original research upon some topic on which they can consult the original sources of information. They are also required to pursue a prescribed course of reading as indicated below:

TEXT-BOOKS.

Freshman Class.—Hart's Formation of the Union; Wilson's Division and Reunion; Brown's History of Alabama; Montgomery's English History.

Sophomore Class.—Myers's General History.

Junior and Senior Classes.—Moore's American Congress.

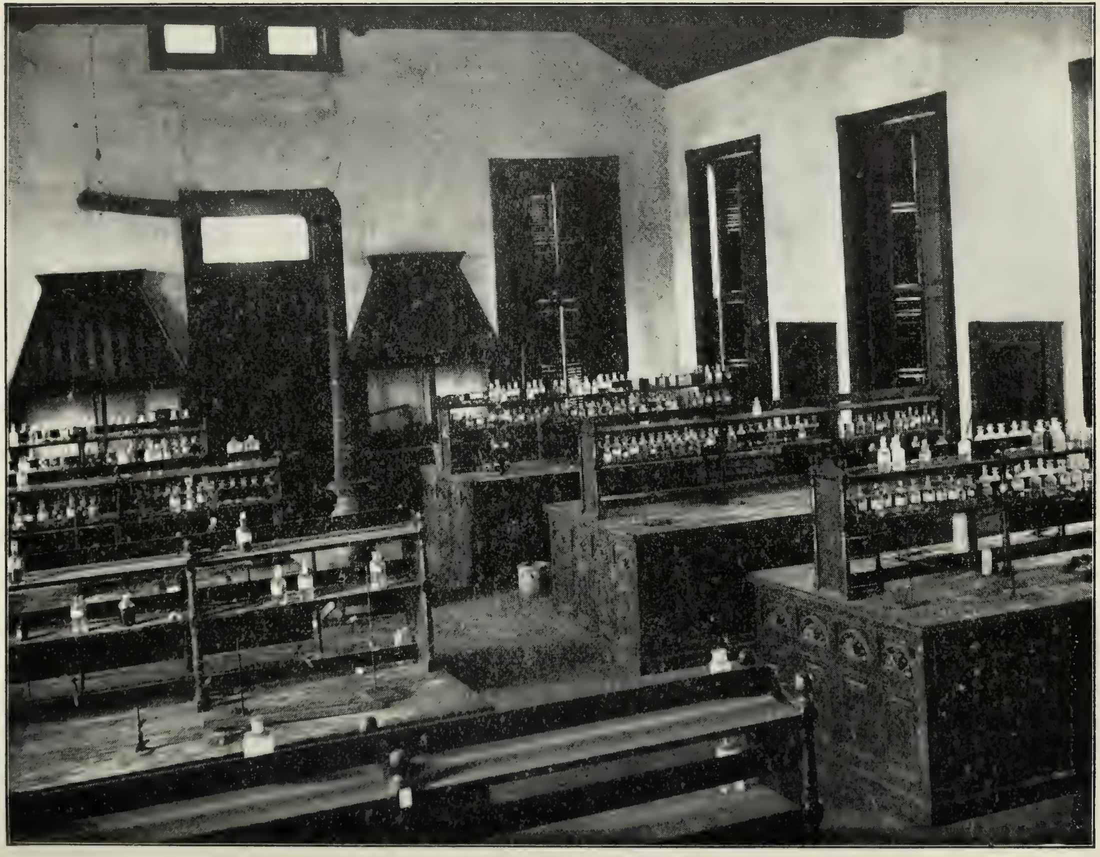
Graduate Course.—Wilson's History of the American People, Fiske's Critical Period, Burgess's Middle Period, Burgess's Reconstruction and the Constitution.

LATIN.

The objects kept in view in this department are: An accurate knowledge of the forms and syntax; a familiarity with Latin words, their etymology and their English derivatives; an appreciation of Latin literature and an intelligent conception of Roman history and civilization both in themselves and in their effect on the modern world.

A systematic course of instruction is given in the forms and syntax. These are taught both deductively from a grammar and inductively from the text read. Translation is constantly practiced,

THE
JOHN CRERAR
LIBRARY



CHEMICAL LABORATORY (INTERIOR.)

sometimes at sight, sometimes after being assigned for preparation. English passages based on a familiar author or illustrative of special constructions are put in Latin, both orally and in writing. Great emphasis is laid on the etymology of the words in the text read.

In connection with every author studied in class a course of reading in English is prescribed descriptive of his life, work and times. The historical setting and the literary value of his writings are carefully discussed and frequent comparisons are made with modern authors.

In the Freshman and Sophomore classes the study of the language is the chief point. In the higher classes a broader view is taken. The Junior class makes a special study of Roman history and Roman historians. The Senior class studies Roman poetry and Roman life.

TEXT-BOOKS.

Freshman Class.—Allen & Greenough's Grammar, Exercises, Nepos, Sallust or equivalent, Cicero.

Sophomore Class.—Cicero, Allen & Greenough's Grammar, Bennett's Latin Composition, Guerber's Mythology.

Junior Class.—Livy, Tacitus, Allen & Greenough's Grammar, Exercises, Botsford's History of Rome.

Senior Class.—Horace, Plautus, Preston & Dodge's Private Life of Romans, Latin Literature, Allen & Greenough's Latin Grammar.

CHEMISTRY.

PROFESSOR ROSS.

ASSISTANT PROFESSOR HARE.

ASSISTANT RANSOM.

ASSISTANT PATERSON.

Instruction in this department embraces—

1. A course of lectures in general chemistry.
2. A course of lectures in industrial and engineering chemistry.
3. A course of lectures in organic chemistry.
4. A course of lectures in metallurgy.
5. A course of lectures in agricultural chemistry.
6. Systematic laboratory work in connection with each course of lectures, for the practice of chemical analysis and chemical research.

1. Course in general chemistry: This consists of a series of lectures (three per week) extending throughout the entire session, and includes a discussion of the fundamental principles of chemical philosophy in connection with the history, preparation, properties and compounds of the metallic and non-metallic elements, with the main facts and principles of organic chemistry. In this course the more common applications of chemistry to the arts and manufactures are discussed. The apparatus used for experimental illustration is extensive, containing the newest and approved improvements necessary for presenting the subject in the most attractive and instructive form.

REFERENCE BOOKS.

Roscoe & Schorlemmer, Fownes, Frankland, Remsen, Cooke's Chemical Philosophy, Chemical Journals.

2. Lectures in industrial chemistry (three per week) extend throughout the session, and include a discussion in detail of the processes and chemical principles involved in the most important applications of chemistry in the arts and manufactures to the preparation of materials for food and drink, for clothing, shelter, illumination, cleansing, purifying, writing, printing, etc.

These lectures are amply illustrated by means of suitable specimens of raw materials and manufactured products, together with models and diagrams.

A course of lectures (two hours per week) on engineering chemistry is given during the last half of the senior year, especial attention being given to the study of the construction and equipment of chemical plants devoted to the manufacture of the more important chemical products. The study of textile chemistry will also be included in this series of lectures.

Excursions to various chemical and metallurgical plants during the course of the year will aid in familiarizing the student with the practical details of the operation of the leading industries.

REFERENCE BOOKS.

Thorp's Industrial Chemistry, Wagner's Chemical Technology; Muspratt's Chemistry as applied to Arts and Manufacturing, Ure's Dictionary, Watt's Dictionary, Richardson and Watt's Chemical Technology, Sadtler's Industrial Organic Chemistry.

3. Course in organic chemistry: Instruction in this subject embraces lectures and recitations (two hours per week) throughout the junior year, upon the leading facts and principles of the chemistry of the carbon compounds, and includes a study of the methods of preparation of the more important compounds, their properties, and their structural and stereo-chemical relations.

TEXT AND REFERENCE BOOKS.

Remsen's Organic Chemistry, Richter's Organic Chemistry, Gatterman's Practical Methods of Organic Chemistry.

4. Course in metallurgy: This consists of lectures and recitations (two per week, during the first half of the senior year) upon the more important metals, such as iron and steel, copper, lead, tin, silver, gold, mercury, zinc, etc. It includes a discussion of the physical and chemical properties of the metals and their alloys, the ores and their treatment, and the processes by which the metals are obtained from the ores, with chemical reactions involved.

5. Course in agricultural chemistry: This consists of lectures on chemistry in its application to agriculture (two per week, during second and third terms), and includes a thorough discussion of the origin, composition and classification of soils, the composition and growth of plants, the sources of plant food and how obtained, the improvement of soils, the manufacture and use of fertilizers, the chemical principles involved in the rotation of crops, the feeding of live stock, and the various operations carried on by the intelligent and successful agriculturist.

REFERENCE BOOKS.

Johnson's How Crops Grow, and How Crops Feed, Lupton's Elementary Principles of Scientific Agriculture, Johnson and Cameron's Elements of Agricultural Chemistry, Storer's Agriculture in Relation to Chemistry, scientific journals, reports of the United States Department of Agriculture, and the bulletins and reports of the various home and foreign agricultural departments and stations.

6. The course of systematic laboratory work: This course of practical work in the laboratory is carried on in connection with each course of lectures. In the junior year the work embraces the practical operations of chemical synthesis and analysis and includes the preparation of the non-metallic elements and their most important compounds, in addition to a systematic study of the metals and their compounds, their separation and identification. In the senior year students pursue work in quantitative analysis, including analysis of fertilizers, soils, coals, ores, iron and steel, sugars and sugar products, feed stuffs, mineral waters, fluxes, slags, cinders, furnace gases, etc., the courses of work being varied somewhat to suit the individual object of the student.

In the course of Pharmacy, instruction in Toxicology and Toxical Analysis is given during the last term of the senior year.

All students during the sophomore year are required to take two hours per week of practical laboratory work, instruction being given in the simplest methods of chemical manipulation.

The laboratories, which are open from 9 A. M. to 5 P. M., during six days in the week, are amply supplied with everything necessary for instruction in chemical manipulation in qualitative and quantitative analysis, and in the methods of prosecuting chemical research. Unusual facilities are offered to students who wish to devote their time to the special study of practical chemistry.

Each student on entering the chemical laboratory is furnished with a work table, a set of re-agent bottles and the common re-agents and apparatus used in qualitative and quantitative analysis.

At the close of the session he will be credited with such articles as may be returned in good order; the value of those which have been injured or destroyed, will be deducted from his contingent fee.

In addition to the laboratory work above described it is designed to give a short course of laboratory work in industrial chemistry, in which the student will apply upon a small scale the principles involved in the processes of some of the more important chemical industries.

TEXT-BOOKS.

In qualitative analysis—Jones, Sellers, Fresenius, Plattner.

In quantitative analysis—Fresenius, Cairns, Sutton, Rose, Blair's Analysis of Iron and Steel, Bunsen, Rickett's Notes on Assaying, Mitchell's Manual of Practical Assaying, Stillman's Engineering Chemistry, Lord's Metallurgical Analysis.

In agricultural chemical analysis—Official methods of the Association of Agricultural Chemists, Wiley's Principles and Practice of Agricultural Analysis.

CHEMICAL LABORATORY.

[For description of building see page 16.]

The chemical apparatus recently purchased for the laboratory consists of a full supply of the most approved instruments for practical work and investigation. The building is supplied with water and gas and every appliance required to meet the demands of modern scientific instruction and research. In addition to the apparatus usually supplied to first-class laboratories, there have been imported a new and improved Schmidt and Hensch's polariscope, eight short-arm balances of latest pattern, Bunsen's spectroscope, Abbe refractometer, and other instruments for delicate and accurate work.

PHYSICS.

PROFESSOR SOUTHALL.

The complete course of Physics extends over four years, and is designed to give, as far as possible, an adequate and correct idea of the methods of Physical Science, and to lay the foundation for subsequent more advanced work if (as must often be the case, especially in an institution such as this) the student desires to pursue the subject further or intends to engage in any of the great engineering professions of which Physics is so important a basis. The lectures are illustrated by experiments; the students are required to work numerous problems and exercises; recitations are held each week.

FRESHMAN COURSE.

This course is very elementary, and continues only during the first and second terms. The object in view is to make the student familiar with the fundamental principles of Physics. The class meets three times a week. (The text-book will be announced later.)

SOPHOMORE COURSE.

This is a laboratory course, and deemed especially important for students of engineering, and of great advantage to such as intend to pursue the subsequent higher work in this department. The laboratory exercises are carefully selected, being designed to illustrate the fundamental methods and principles of Physics, and, although the work is necessarily more or less elementary, at the same time such accuracy and precision as the conditions admit of are insisted upon, so that the student is expected to acquire a fairly correct idea of modern experimental investigation. The exercises consist of the fundamental measurements of Length, Mass, Density, moduluses of Elasticity, pendulum experiments, etc., together with a few more advanced experiments in connection with the similar properties of Liquids and Gases, and the general phenomena of Heat and Sound. The student is required to write a careful report of such experiments, entering the results of observation in tabular form, and plotting a curve wherever practicable; also describing the object, apparatus, and method, and noting sources of errors, etc. Great stress is laid upon this requirement, and reports are not accepted unless they indicate that the student has done his best in every way. Four hours per week throughout entire year. (Text-book will be announced later.)

JUNIOR COURSE.

Lectures and recitations three hours a week throughout entire session. This is a more advanced course in general physics required of all candidates for a degree. The only preparation needed is a good working knowledge of mathematics through plane trigonometry. The course includes a series of illustrated lectures on the principles of Dynamics, as applied to Solids, Liquids, and Gases, Sound, and Heat, in the order named. Written exercises are required each week. (Text-book to be announced later.)

SENIOR COURSE.

Lectures and recitations two hours a week throughout the entire session. This course, although more advanced than the Junior course, and occasionally employing the higher Mathematics, is a continuation of the work of the previous year. It might be called a course in Elementary Mathematical Physics, and the subjects, varying from year to year, that are treated in the lectures are such branches of Physics as Kinematics and Dynamics, Thermodynamics, Electricity and Magnetism, Geometrical and Physical Optics, etc. The student is encouraged to solve difficulties for himself, and to read the standard treatises and original memoirs on the various topics that come under discussion.

The last term of the session will generally be devoted to a brief course of lectures in *Descriptive Astronomy.*

The text-books in this class vary with the changing subjects, and will be announced by the professor each year.

GRADUATE COURSE.

This course will be designed to meet the needs of the students who take it. It will include both theoretical and experimental work in more advanced Mathematical Physics, or in Analytical Mechanics.

MODERN LANGUAGES.

PROFESSOR WIATT.

The chief aim in this department is to give the student a thorough and accurate knowledge of the elementary principles of the subjects taught, and to enable him to read with facility the ordinary French and German at sight. To train the ear, acquire a correct pronunciation and some facility in speaking, all recitations are supplemented, as far as practicable, by oral exercises in the languages themselves.

The following regular courses are given in French and German:

French—First Year: Three recitations a week. During this year the principal object is to acquire a knowledge of the elements of grammar and a correct pronunciation, together with a facility in translating ordinary French. Reading is begun at an early stage, and the principles of grammar are illustrated and impressed by frequent exercises in rendering English into French.

Second Year: Three recitations a week. During this year almost the same line of work is pursued as that begun the previous year. More difficult and varied French is read, and instruction is given upon the laws of grammar, the construction of the language, and the history of the literature. Special attention is given to sight translation.

German—Two Years: Three recitations a week the first year, three a week the second year. In this course the aim and the methods are similar to those in French.

The students in this department will meet the professor twice a week, from 4 to 5 p. m. during the *first term,* and the *third term,* for exercises in conversation in French and German.

TEXT-BOOKS.

FRENCH—*First Year*: Edgren's Grammar and Locard's Supplementary Exercises. Super's Reader.

Second Year: Feuillet's Le Roman d'un Jeune Homme Pauvre, Racine's Esther, Corneille's Le Menteur, Moliere's Le Bourgeois Gentilhomme, selected plays, Whitney's Grammar, original exercises.

GERMAN—*First Year*: Joynes-Meissner's Grammar and Reader.

Second Year: Der Bibliothekar, Wilhelm Tell, Whitney's Grammar and Exercises, selected plays, original exercises.

GRADUATE COURSE.

This course is offered for the benefit of those students who wish to pursue the study of these subjects beyond the scope to which a two-year course necessarily limits them. Here, in addition to the authors studied in the lecture room, a wide and extensive reading of authors and literature is prescribed.

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Co. N.Y.

ELECTRICAL ENGINEERING.

PROFESSOR DUNSTAN.

ASSISTANT PIERCE.

JUNIOR YEAR.

First Term: Four hours per week are devoted to the study of the principles of electricity and magnetism, with special reference to their industrial application. The subject of electrical measurements is also treated in detail.

Second Term: Incandescent lighting, four hours per week.

Third Term: Arc lighting and wiring, four hours per week.

TEXT-BOOKS.

S. P. Thompson's Electricity, Crocker's Electric Lighting, and Cushing's Standard Wiring.

Instruction is given by lectures and recitations.

LABORATORY WORK.

Four hours per week are devoted to work in the laboratory. This includes management of batteries, electrical measurements, adjustments and testing of arc lamps, and a considerable amount of wiring and some electrical construction.

SENIOR YEAR.

First Term: Dynamo electric machinery, five hours per week.

Second Term: Alternating currents and alternating current machinery.

Third Term: Polyphase machinery and power transmission, five hours per week.

TEXT-BOOKS.

Dynamo Electric Machinery, Thompson; Alternating Currents, Franklin and Williams; Standard Polyphase Apparatus, Oudin; Electrical Problems, Hooper and Wells.

LABORATORY WORK.

Six hours per week during the senior year are devoted to practical work in the dynamo laboratory. This work includes the study and testing of various types of dynamos and motors, the determination of various constants, dynamo and motor efficiencies, transformer testing and the general management and installation of electrical machinery.

ELECTRICAL DESIGNING.

During the first term each senior student is required to design and prepare the necessary drawings for the construction of a direct current dynamo or motor, and during the third term the design of an alternator is completed.

APPLICATION OF ELECTRICITY TO MINING.

Two hours per week for two terms of the senior year a course of recitations and lectures on electricity with especial reference to its use in mining is given to students taking the course in Mining Engineering. Sufficient laboratory and other practical work in testing and the study of generators, motors, etc., is given to thoroughly familiarize the student with electrical machinery of various kinds.

POST-GRADUATE COURSE.

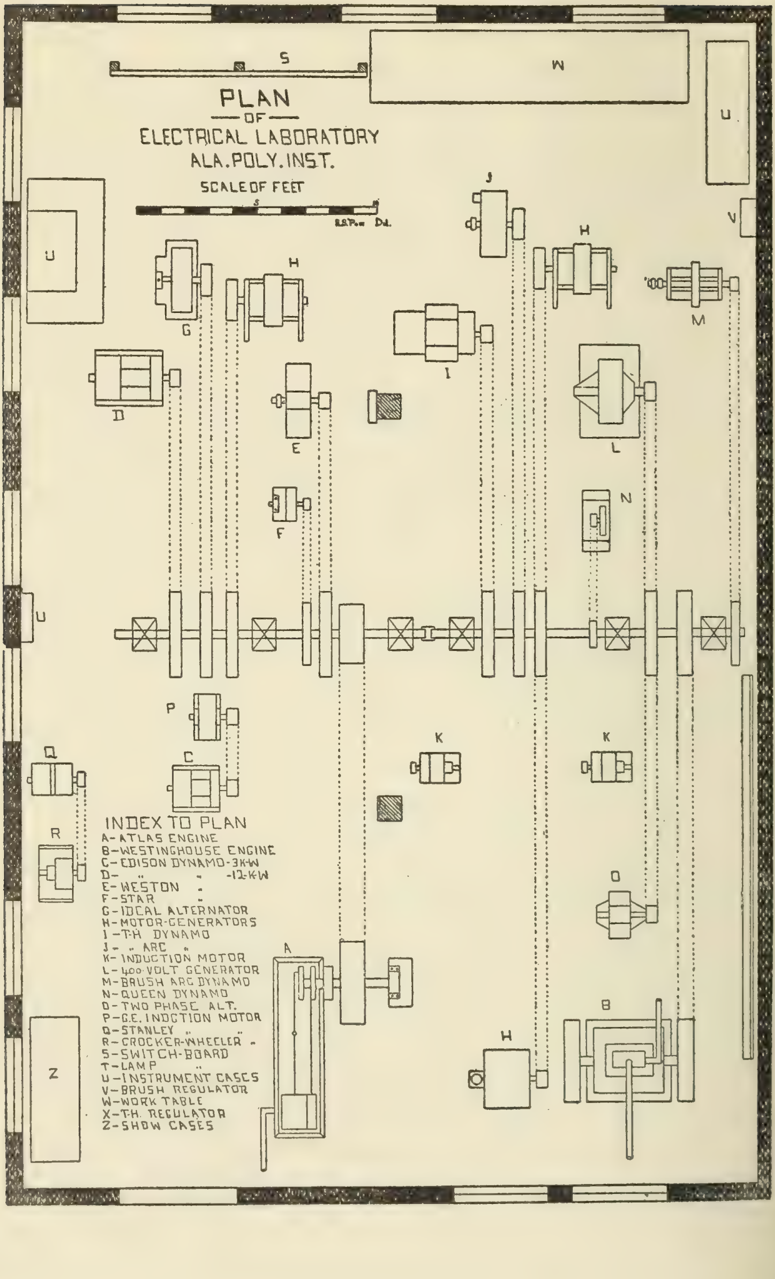
To graduate students more advanced courses of instruction are offered, these courses being varied from year to year to meet the needs of those taking them.

During the present session the courses given have been: Engineering Contracts and Specifications (one term). A study of the Law of Contracts, General and Technical Clauses in Specifications, Examination and criticism of sets of Specifications for the Construction of various railway and light plants.

Induction Motors (two terms.) A general theoretical and experimental study of various types of induction motors, the calculation of performance, diagrams from construction data of several motors, and the design of several types of induction motors.

Encouragement is offered to advanced students for conducting original investigations and an opportunity is taken to stimulate a spirit of scientific enquiry. Courses of reading are suggested to such students in connection with their experimental work.

The rapid extension of the lighting and power service gives unusual opportunities for practical work in wiring and the installation of electrical machinery. Most of this work is done by students, and great benefit is derived by them from it.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E-WESTON "
F-STAR "
G-IDEAL ALTERNATOR
H-MOTOR-GENERATORS
I-T-H DYNAMO
J- " ARC "
K-INDUCTION MOTOR
L-400 VOLT GENERATOR
M-BRUSH ARC DYNAMO
N-QUEEN DYNAMO
O-TWO PHASE ALT.
P-G.E. INDCTION MOTOR
Q-STANLEY " "
R-CROCKER-WHEELER "
S-SWITCH-BOARD
T-LAMP "
U-INSTRUMENT CASES
V-BRUSH REGULATOR
W-WORK TABLE
X-T-H. REGULATOR
Z-SHOW CASES

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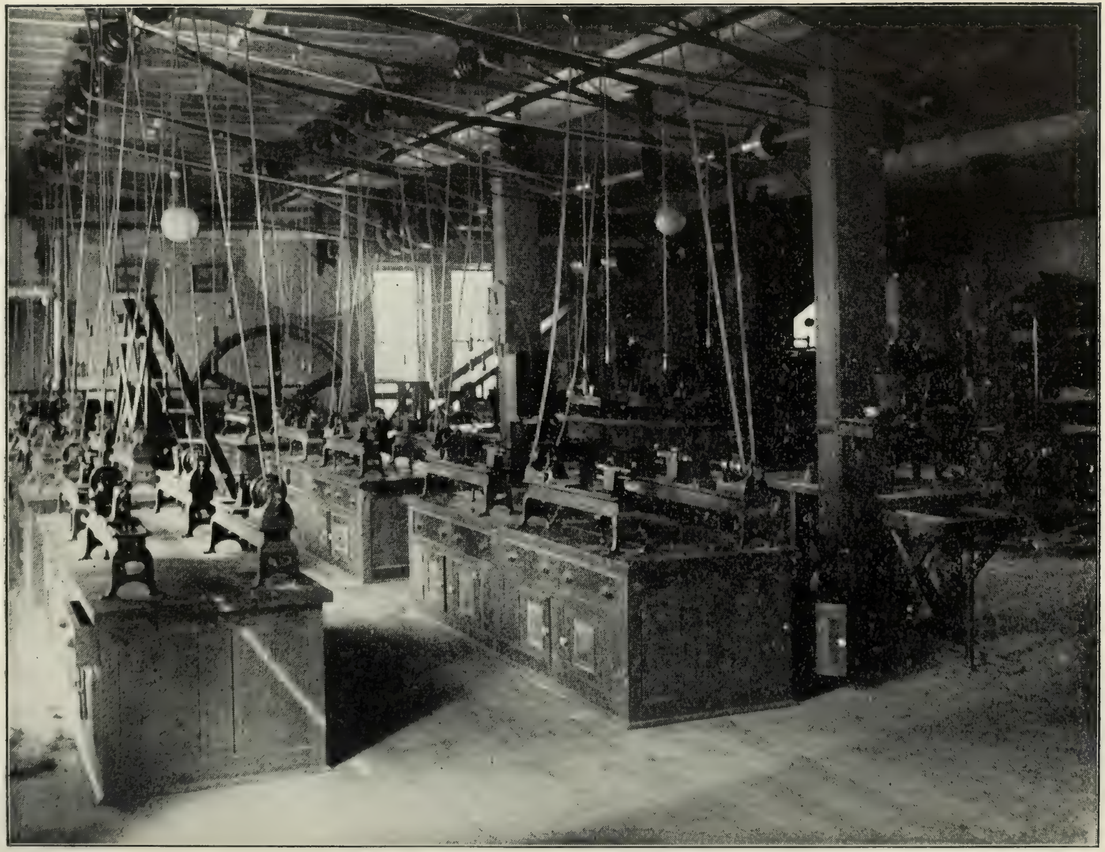


WOOD ROOM.

MECHANICAL ENGINEERING AND MECHANIC ARTS.

PROFESSOR WILMORE.

ASSISTANT PROFESSOR FULLAN.

INSTRUCTOR HILL.

INSTRUCTOR STOKES.

ASSISTANT CULVER.

The course in shop work covers three years, as follows: First year, wood working in carpentery and turning. Second year, blacksmith work, pattern making and foundry work. Third year, chipping, filing and machine work in metals. The work of each class is six hours per week, in three exercises of two hours each, and all students in the sub-freshman. freshman, and sophomore classes are expected to take the work unless excused, for satisfactory reasons, by the Faculty. Machine shop work is required of all juniors in the course of Electrical and Mechanical Engineering, is optional with students in the course of Civil Engineering, and is offered to special students who are prepared to take it.

The equipment available for carrying on this work is enumerated on page 11 of this catalogue. The nature of the work in each department is as follows:

FIRST YEAR.

I. A course in carpentry or hand work covering the first two terms. The lessons include instruction in the nature and use of tools, instruction and practice in shop drawing, elementary work with the plane, saw, chisel, different kinds of joints, timber splices, cross joints, mortise and tenon, mitre and frame work, dovetail work, comprising different kinds of joints used in cabinet work, and examples in framing roof trusses. Students who make sufficient progress in their work are allowed to make a flat top office desk. Upon the payment of the bare cost of the materials, the student is allowed to take the desk to his home. This has been found to increase the interest of the student in the work, and serves as a valuable object lesson in having a considerable amount of actual construction work going on in the shop.

WOOD ROOM.

II. A course in turning extending through the third term. The lessons comprise the nature and use of the lathe and tools, plain straight turning, caliper work to different diameters and lengths, simple and compound curves, screw plate and chuck work, hollow and spherical turning.

SECOND YEAR.

I. A course in forge work in iron and steel, occupying the first term. The lessons are so arranged that the students in making them become familiar with the nature of the metals and the successive steps in working them by hand into simple and complex forms, as drawing, upsetting, bending, cutting, punching, welding by various methods, tool forging, tempering and hardening.

II. A course in turning extending through the third term. The work includes a variety of examples of whole and split patterns, with suitable core boxes, giving the students familiarity with the use of patterns for general molding.

III. A course in molding and casting in iron and brass occupying the third term. The work for the most part consists of small articles, such as light machine parts and the stock pieces used for the exercise work in the machine shop. A sufficient variety is introduced for the student to acquire a good general knowledge of the usual methods and appliances used in light foundry work. Most of the work is in green sand in two part flasks, but core work and some more complicated molds are made to illustrate the processes.

The same patterns which have been previously made by the students are used. For the heavier and more complicated castings, special patterns are made. Instruction is given in operating the cupola, and from time to time during the year lectures are given on the metallurgy and working of the metals used in the industrial arts.

THIRD YEAR.

I. A course of chipping and filing, covering the first term. The lessons comprise work on cast and wrought iron: chipping to line on flat and curved surfaces, key seating, filing and finishing to line, surface filing, fitting, slotting, pin and screw filing, and surface finishing with scraper.

II. Machine work occupies the remainder of the year. The work includes steel, brass, and cast and wrought iron. Exercises are given in turning to various diameters and lengths, taper turning, facing with chuck and face plate, drilling in the lathe and drill press, reaming, boring, screw cutting in lathe and with taps and dies. Practice is given in working the planer, shaper and milling machine. In the last part of the year some work in tool making is given, such as making taps, reamers, and milling cutters. Some sort of construction work or repair work for the department is always on the shop floor, and students who are well advanced with their work have opportunity to gain additional practice and experience by assisting with this.

All work is done from blue prints and blackboard sketches. For the preliminary exercise work, special instruction sheets are prepared and given out to the student with the stock for the exercise. These sheets explain in detail each step in the process of producing the exercise, and are intended to supplement the individual instruction of the instructor. In the construction work it is the purpose to select some simple machine and build two or more of them on the interchangeable system. Jigs and templates are designed and built to accomplish this result as far as possible. A system of time keeping is in force in the shop. At the end of the week, each student makes out his time card, describing the work he has done during the week and giving the number of hours spent on each job.

MECHANICAL ENGINEERING.

JUNIOR YEAR.

Kinematics of Machinery.—Three recitations per week during the first term are devoted to this subject. Under this head machines are analyzed and their elementary combinations of mechanism studied. The communication of motion by gear wheels, belts, cams, screws, and link work, the different ways of obtaining definite velocity ratio and definite changes of velocity, parallel motions and quick return motion, as well as the designing of trains of mechanism for various purposes, together with the theoretical forms of teeth for gear wheels to transmit the motion through these trains, are investigated under this subject.

Elementary Mechanics.—Three hours per week for the second term are devoted to this subject. Under it the fundamental laws of mechanical science are studied, with special attention to their practical applications to engineering work.

Mechanical Engineering of Power Plants.—The third term, three hours per week, is given to the study of the practical applications of steam machinery. It is believed that a thorough knowledge of the apparatus in actual practical use is the best preparation a student can have for the study of the theory, and to that end, the different types of engines, boilers, pumps, condensers, and other auxiliary apparatus are taken up and studied in detail, and the advantages and disadvantages of each discussed. Extensive files of manufacturers' catalogues are kept and the technical papers and magazines in the library are freely used in order to keep in touch with the latest and best practice in engineering work.

Practical Mechanics.—One hour per week during the year is given to recitations and lectures on machine shop work. The construction, use and limitations of the various machine tools, the forms of cutting tools and methods of grinding them, the form and use of jigs and gauges, are studied, together with instruction in machine shop management, time and cost of keeping.

Mechanical Drawing.—Four hours a week during the year are devoted to drawing. During the first part of the year instruction is given in the conventional methods of representing standard materials, and in the design of fastenings and machine parts. Later on scale drawings of simple machines are made from dimensional sketches which each student makes for himself from the actual machine. Free hand lettering, tracing, and blue printing receive attention, and all the instruction is intended to familiarize the student with modern drawing office methods.

Laboratory Work.—The laboratory work of the junior year is that described under the third year of the course in Mechanic Arts.

TEXT-BOOKS.

Barr's Kinematics of Machinery, Wood's Elementary Mechanics, Rose's Practical Machinist, and Reid's Elementary Machine Design.

Mechanical Engineering of Power Plants.—The first term, five hours per week, is given to a continuation of the junior class work under the same head. The text-book work will be supplemented by lectures on the structure and form of steam boilers, best methods of setting and handling them and preventing undue wear and tear. Lectures on some of the kinematical features of the steam engine, together with a study of valve gears, will be offered as part of the course.

Materials of Machines.—The first term, two hours per week, is devoted to this subject. Special attention is given to the manufacture of iron and steel, and to the strength of these metals under various conditions. The crude materials which go into the blast furnace and the by-products which come out also receive attention.

Thermodynamics.—The second and third terms, five hours per week, are given to this subject. It is first studied from the ideal standpoint, and later the applications are made to hot air engines, gas and gasoline engines, and steam engines, and also to air compressors and refrigerating machines. Graphical methods are used in preference to mathematical ones when they can be made to serve the purpose equally well, as it is believed that a more concrete conception can be presented to the mind of a student by a diagram than by a formula.

Indicator Practice.—The second term, two hours per week, will be given to a study of the indicator and its uses as applied to steam engines, gas engines, air compressors, and refrigerating machines. Particular attention is given to the interpretation of the diagrams and to the methods of working them up.

Pumps and Pumping Machinery.—The third term, two hours per week, will be given to the study of steam and power pumps as applied to boiler feeding, water works and irrigation purposes. The instruction will be given by lectures for the most part, and the standard types, together with the conditions under which each type will give the most satisfactory service, are studied.

Machine Design.—The subject of machine design is made a continuation of the junior course and runs throughout the year, two hours a week. The general plan of the work follows the text-book used, and such additional exercises are given as are found desirable. The strength and proportion of joints, fastenings, and machine details, are studied. Problems are given, the dimensions worked out and the drawings made under the direction and criticism of the instructor. It is the purpose of the course, as far as time will permit, to prepare students for practical drawing room work.

Laboratory Work.—The students are not only taught how to calibrate and use the different instruments, but they are brought in contact with engineering appliances under practical working conditions. Thoroughness of work is sought rather than the performance of a large number of experiments.

The following course has been arranged:

Calibration of steam gauge; calibration of indicator spring; calibration of thermometer; calibration of scales; calorimeter tests with separating and throttling calorimeters; boiler test; efficiency test of engine with brake and indicator power measurement; test of hot air pumping engine; test of gasoline engine; efficiency and duty test of steam pump; transverse, compressional, and tensional tests of cast iron, wrought iron, steel and wood, in which are observed the limit of elasticity, the ultimate breaking strength, and the modulus of elasticity.

TEXT-BOOKS.

Hutton's Mechanical Engineering of Power Plants, Smith's Materials of Machines, Hutton's Heat and Heat Engines, Peabody's Manual of the Steam Engine Indicator, Reid's Machine Design.

POST GRADUATE COURSE.

Considerable latitude is allowed in the selection of post graduate work, and the course is arranged each year to suit the requirements of the class. One of the following lines of work is recommended: Hydraulics, Thermodynamics, or Power Plant Engineering. The course selected is accompanied by suitable laboratory work.

GEOLOGY AND MINING ENGINEERING.

PROFESSOR MITCHAM.

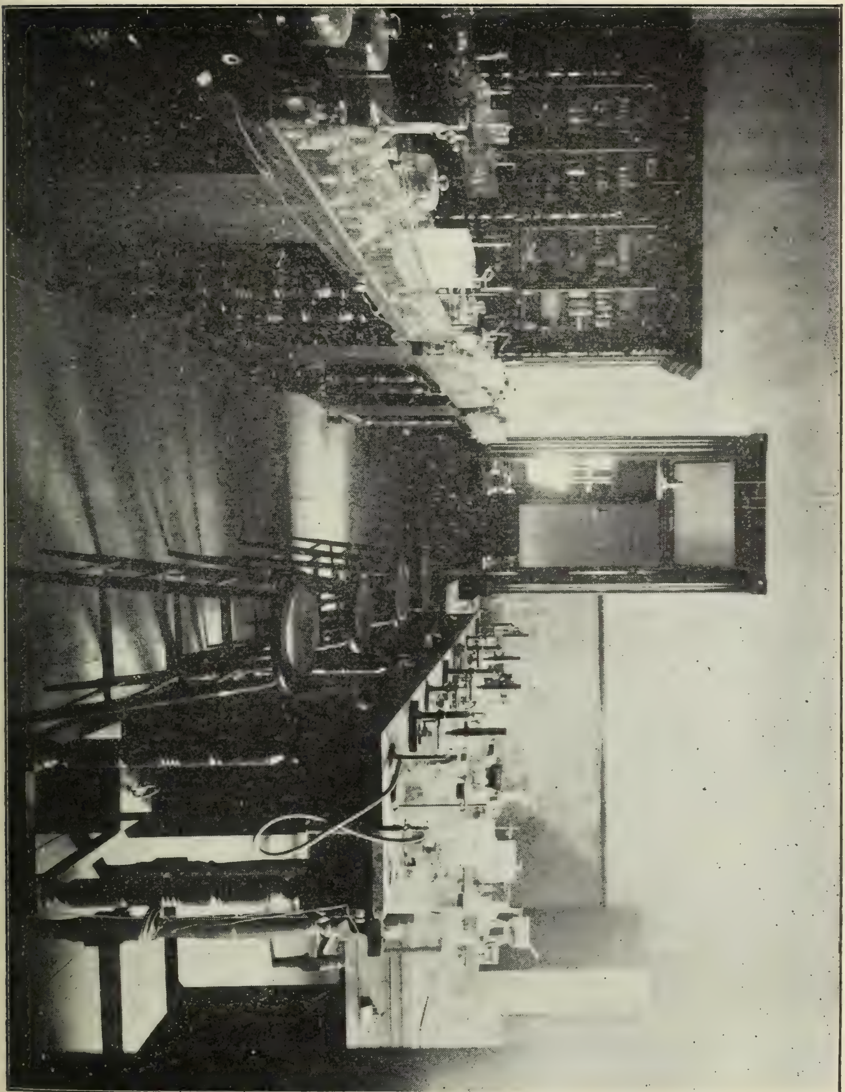
General Geology.—This subject is studied in the senior class by students pursuing courses in Chemistry and Agriculture, Chemistry and Metallurgy, Civil Engineering, Mining Engineering and the General Course, and extends through the entire session. The subject begins with an introductory course in the study of the rock-forming minerals and Petrology, after which Dynamical, Structural, Physiographical and Historical Geology are taken up and studied in the order named. Special attention is given to the Geology of Alabama and the lectures and recitations are supplemented by laboratory instruction and geological excursions. Text-book, Scott's Introduction to Geology.

Mineralogy.—The students of the junior class in Mining Engineering devote two hours a week during the first term to the study of Crystallography. The junior classes in Civil and Mining Engineering, Chemistry and Metallurgy, devote four hours a week throughout the entire session, to the study of Determinative Mineralogy. The work consists of laboratory instruction in blowpiping, measuring crystals, and determining the physical properties of minerals. An effort is made to familiarize the student with the economically important ores and rock-forming minerals so that he can identify them by sight or, by applying a few simple tests in the field. Text-books; Moses & Pearson's Mineralogy and Crosby's Tables.

Mining Engineering.—The special studies in this subject begin with the first term in the junior class, and require a thorough knowledge of Algebra, Geometry and Trigonometry. Special students who have not completed these subjects cannot pursue this course satisfactorily. The work begins with higher Surveying, and is introduced by a course of lectures on the construction, theory, use and care of the various instruments used by Engineers and Surveyors in surveying, leveling and mapping. Following this, instruction is given in the theory and practice of traverse and triangulation surveys of extended areas, topographical surveying by the various methods, hydrographic surveying, gauging of streams, calculation of flow of water in open channels, pipes and conduits, levelling with barometer, differential, sections and cross section levelling with spirit level, establishing grades and calculation of quantities. Special attention is given to mine surveying and mapping. The work in surveying occupies five hours a week during the first and second terms and is concluded by a short course in railway surveying. Text-books, Johnson's Surveying and Field Book. During the third term five hours a week is devoted to Economic Geology. The origin, occurrence and distribution of the various economically important ores, minerals, and building stones are studied, special attention beging given to the mineral deposits of Alabama and the Southern Appalachians.

The senior class takes up the study of mining proper, the subjects of exploration, boring, modes of approaching minerals, sinking, opening out, methods of working of various kinds of ore deposits, theory and practice of ventilation, safety lamps, gases, blasting, power drills, coal-cutting machinery, timbering, haulage, transmission of power, hoisting operations and hoisting plants. Mine drainage, ore dressing, colliery screens, coal-washing plants, coke ovens, precautions for safety and mine administration are studied in detail. The senior class devotes three hours per week throughout the session to the subject. Text-book: Lupton's Mining. Coal and Metal Miner's Pocket-book. Both junior and senior classes devote three hours a week to field work.

Drawing.—Both junior and senior classes pursue a course in drawing throughout the session, and are taught to make drawings, tracings and blue-prints, of various mining machinery and appliances, topographical maps, geological maps and sections, profiles, and working drawings of coke ovens, tipples and various mining structures. An effort is also made to have the student acquire a neat, practical system of lettering for working drawings and maps. Text-books: Rheinhardt's Technic of Mechanical Drafting, Rheinhardt's Lettering.



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AGRICULTURE.

PROFESSOR DUGGAR.

INSTRUCTOR REW.

ASSISSTANT MITCHELL.

Five terms are devoted to soils, crops and other portions of the subject of general agriculture and four terms to animal industry.

Instruction in agriculture is given by means of lectures, textbooks, bulletins of the agricultural experiment stations, and practical work in field, barn and dairy.

The study of agriculture begins with the freshman class in the third term, and occupies three terms of the sophomore year, two terms of the junior year, and will hereafter extend through three terms of the senior year.

The time devoted to this study in the lecture room is two hours per week with each class, in addition to two or four hours of laboratory work per week in barn, field, dairy or library.

The subjects studied by the freshman class are the breeds of horses, cattle, sheep and hogs—their characteristics, uses, management and adaptability to the South.

The first term of the sophomore year is devoted to dairying, which is taught by practical work in the dairy—butter making, cheese making, determination of fat in milk by the Babcock method, etc.,—as well as by instruction in the lecture room.

In the second term of the sophomore year the following subjects are studied: Soils—chemical and physical properties, defects, and means of improvement; characteristics of the principal soils of Alabama and the special adaptability of each to particular crops; terracing; objects and methods of preparation and cultivation of the soil; fertilizers; and the renovation of poor soils. Practical work in judging the principal breeds of beef and dairy cattle, hogs, and sheep occupies four hours per week throughout the term.

During the third term the student studies the grasses, leguminous, and other forage plants adapted to the different soils of this State. Instruction in the choice of suitable plants, recognition of the most important forage plants and of their seeds, preparation of meadows and pastures, and principles and practice of hay-making, is both by lectures and by field work and observation of experiments.

In the junior year the topics of the first term are the staple crops of the South, including cotton, corn, oats, wheat, tobacco and rice. The more important crops are treated with reference to varieties, soil and fertilizer requirements, methods of planting and cultivation and uses. Plant breeding, with the special aim of effecting improvement in existing varieties of cotton, corn and cowpeas, by means of systematic selection and crossing, will be taught both in the lecture room and in the field. Students make observations and notes on and assist in harvesting the large collections of varieties of cotton, corn, cowpeas, etc., grown on the Experiment Station Farm.

During the second term the topic is the feeding of animals and the compounding of rations.

The seniors will hereafter study during the first term drainage, irrigation, farm implements and farm buildings; during the second term the principles of animal breeding; and during the third term farm management, including different systems of farming and stock growing, rotation of crops, care of farm manures, choice and methods of applying commercial fertilizers for different soils and crops; markets and results of experiments.

As far as limited time allows, attention is directed to agricultural literature now accumulating so rapidly in this and in foreign countries, to the end that in future years the student may know where and how to seek the information that he may need.

Applicants for post-graduate work in agriculture will be assigned special research work and aided in the line of investigation deemed best for each individual student.

FACILITIES FOR INSTRUCTION.

Students who take the agricultural course have the benefit of the numerous field and feeding experiments continually in progress on the Experiment Station Farm. The dairy building is equipped for work in making butter and cheese on a small scale and for testing milk.

The specimens of live stock brought together for the special purpose of students' use in the study of breeds and in practice in judging animals consist of representatives of Angus, Shorthorn, Red Polled, and Jersey cattle; Berkshire and Poland China hogs; and Dorset, Southdown, Shropshire, common and graded sheep. Important additions to the live stock are planned.

TEXT AND REFERENCE BOOKS.

Horses, Cattle, Sheep and Swine, by Curtis; The Study of Breeds, by Shaw; Sheep, by Wrightson; The Domestic Sheep, by Stewart; Milk and Its Products, by Wing; Milk Testing, by Farrington & Woll; Soils and Crops on the Farm, Morrow & Hunt; Forage Plants, by Shaw; Soiling Crops and the Silo, by Shaw; The Fertility of the Soil, by Roberts; Corn Culture, by Plumb; Irrigation and Drainage, by King; Irrigation Farming, by Wilcox; Physics of Agriculture, by King; Manures and the Principles of Manuring, by Aikman; Drainage for Profit and Health, by Waring; Agriculture in Some of Its Relations with Chemistry, by Storer; The Feeding of Animals, by Jordan; Feeds and Feeding, by Henry; Animal Breeding, by Shaw; Hand-book of Experiment Station Work; and selected publications of the various divisions of the U. S. Department of Agriculture, and of the Agricultural Experiment Stations.

TWO YEAR COURSE IN AGRICULTURE.

All persons interested in agriculture are advised to take the full four-year course,, which besides offering a well rounded general education, should fit them for farming or stock raising, or for special work in agricultural journalism, or for positions in the experiment stations and colleges and in the National Department of Agriculture.

However, those who are able to spend only two years at college may take the two-year course in agriculture and thus devote practically all of their time to agriculture and the closely related branches of study. In the two-year course the studies are so arranged that the nine courses in general agriculture and animal industry, together with work in other departments of applied science, may be completed during two sessions.

BOTANY.

PROFESSOR WILCOX.

ASSISTANT BURKE.

1. ELEMENTARY BOTANY. This course offers a general introduction to the science of botany and is therefore a prerequisite of all other courses in botany. The general principles of morphology and classification will be developed from the standpoint of physiology and ecology. In the laboratory the student will become acquainted with the general morphology and physiology of the spermatophytes and of some of the most important facts of ecology.

LECTURES AND RECITATIONS. Three hours per week during the spring term of the sophomore year.

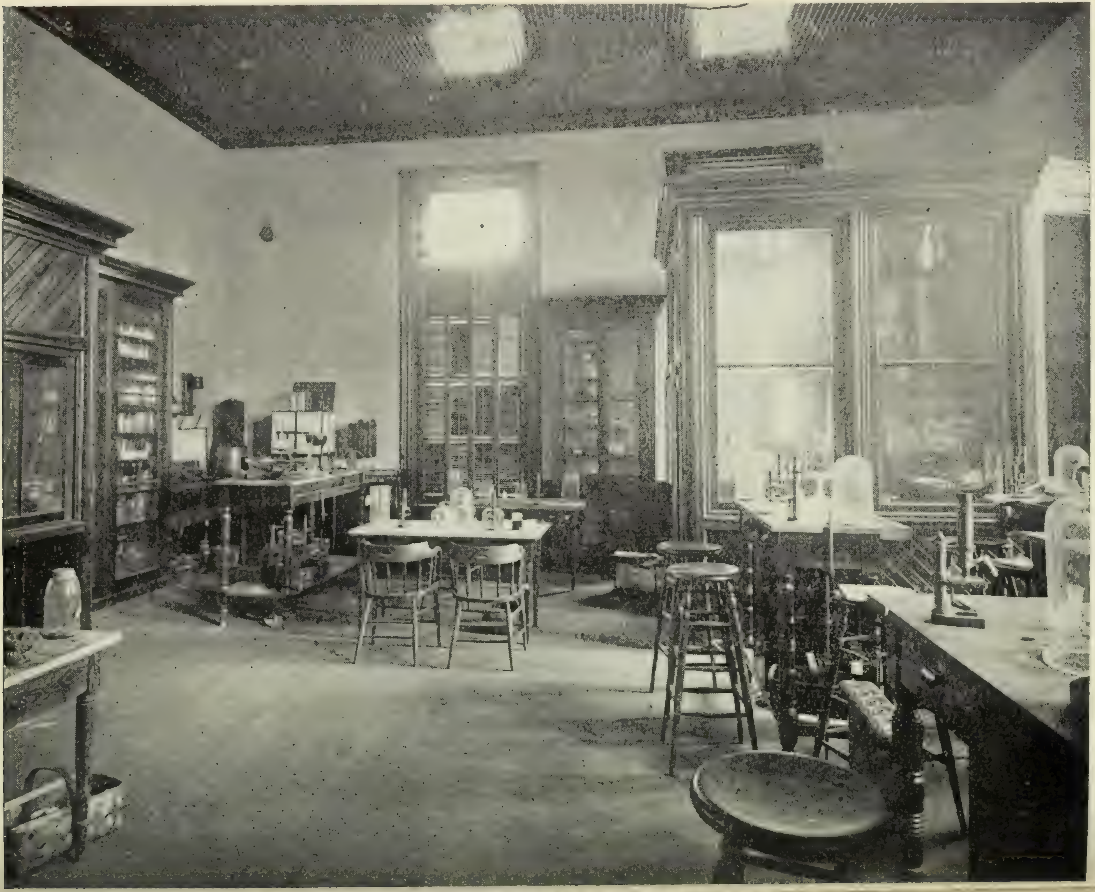
LABORATORY WORK. Four hours per week.

2. GENERAL MORPHOLOGY. This course will be devoted to the study in the laboratory of carefully selected representatives of the principal groups of plants. The lectures and recitations will supplement the laboratory work and fill up such gaps in the student's knowledge as are incident to the study of isolated types. In all cases where possible special attention will be devoted to plants of economic importance, in either agriculture or medicine.

LECTURES AND RECITATIONS. Two hours per week during the fall and winter terms.

LABORATORY WORK. Four hours per week for students in the long and short course in pharmacy, but only two hours for other students.

3. COMPARATIVE ANATOMY OF THE SPERMATOPHYTES. A thorough study of the structure and activities of the plant cell will be followed by an examination of the typical tissues with special reference to their function. Students are required to become acquainted with the general methods of botanical microtechnique, including the killing, fixing, imbedding, sectioning, staining, mounting and drawing of all the tissues examined. Students in pharmacy will devote special attention to the study of the structure of plants employed in medicine while



LABORATORY OF BOTANY.

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other students will give more attention to those matters that will be of the greatest value to them in the subsequent courses in the subject.

LECTURES AND RECITATIONS. Two hours per week during the spring term.

LABORATORY WORK. Four hours per week for students in the pharmacy courses, but only two hours for other students.

4. PHYTOPHYSIOLOGY. This is a course of carefully selected experiments, to be performed by each student, supplemented by selected readings, conferences and lectures upon certain subjects. It will be the aim of this course to develop a good, general knowledge of the most important functions of seed-plants, such as absorption, photosynthetic assimilation of carbon-dioxide, transpiration, respiration, etc.

LECTURES AND RECITATIONS. Two hours per week during the fall and winter terms of the senior year.

LABORATORY WORK. Four hours per week.

5. PHYTOPATHOLOGY. The aim of this course is to present a broad and comprehensive view of the subject. A thorough study will be made of the principal diseases due to parasitic fungi, but not to the exclusion of diseases produced by unfavorable surroundings and various inorganic factors.

LECTURES AND RECITATIONS. Two hours per week during the spring term of the senior year.

LABORATORY WORK. Four hours per week.

6. BOTANICAL SEMINAR. It is expected that meetings will be held twice per month at which the results of the latest researches in various languages will be presented and informally discussed. The seminar will be open to all juniors, seniors and post graduates taking work in this department and the meetings will be held at some time convenient to all who wish to take part.

7. RESEARCH AND THESIS WORK.—The following lines of work are open to the students during this year:

(1) Comparative embryology of spermatophytes.

(2) Ecology and ecological anatomy.

(3) Physiology and morphogenesis.

(4) Advanced plant physiology.

(5) Advanced cytology.

(6) Forestry or plant culture.

(7) Plant breeding or biometry.

It is expected that seniors who do their thesis work in this department will select a subject in one of these groups, and that the result of the research will be presented as a thesis for publication.

PHYSIOLOGY AND VETERINARY SCIENCE.

PROFESSOR CARY.

ASSISTANT THORNTON.

The sophomore class studies human anatomy, physiology and hygiene during the entire college year.

It is the aim of the department to give the students practical and real knowledge of the gross anatomy and functions of the various parts of the human body. Due attention is given, also, to the laws of health—the conditions most favorable to a continuous healthy action of the organs of the human body.

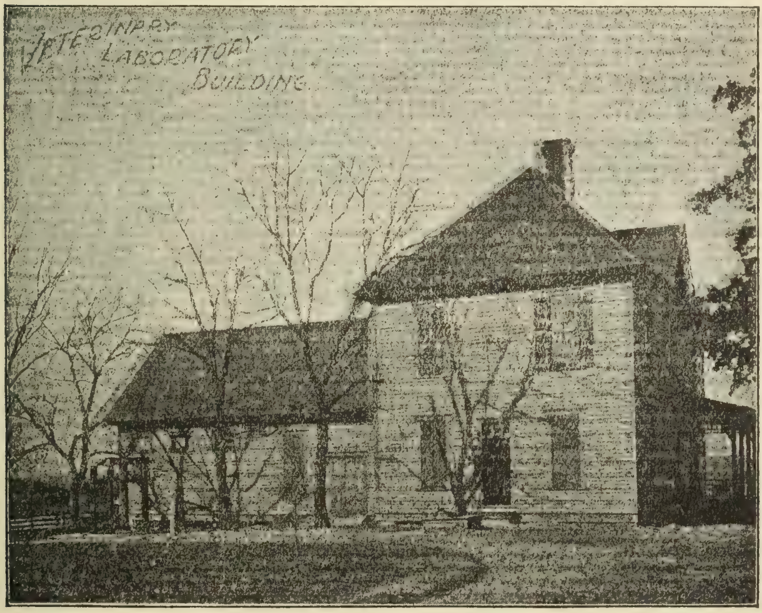
Instruction is given by lectures and by text-books supplemented by blackboard drawings, charts, models of organs, a human skeleton, and by dissections of some of the smaller animals (dog, cat, etc.)

Huxley's Physiology is used as a text and reference book, and several other books on anatomy, physiology and hygiene may be consulted in the college library.

VETERINARY SCIENCE AND ART.

Students in the agricultural and chemical course of study, during the entire junior and senior years, devote to this work two hours per week in the class room and three hours per week at practical clinics. Instruction in veterinary science and art is given by lectures.

The lectures are arranged with special reference to the students who are interested in horses or other domestic animals; also to those students who contemplate studying human or veterinary medicine. While it is not the aim to give a complete course in veterinary medicine, we attempt to present the general principles of comparative medicine with such special applications as are adapted to the conditions and wants of the students.



Special attention is given to the exterior anatomy of the horse, while comparative anatomy is presented mainly in connection with the study of the diseases of the different apparatus of the horse or other domestic animals.

Special students in this department study comparative anatomy and have practical dissection from 6 to 15 hours per week during the entire year.

Lameness in the horse, minor surgery, the actions and uses of the most common medicines, the principles and practices of comparative medicines, and the ways of protecting the health of domestic animals, are considered in as plain and practical a manner as the time allotted to each subject will permit. Post-mortem examination and the dissection of domestic animals are used as object lessons in the study of general pathology and anatomy.

To the post-graduate student this department furnishes work in histology, pathology, bacteriology, meat and milk inspection. This work gives students who contemplate studying medicine excellent preparatory work along that line. Such students may devote one-half their time to work in this department with the approval of the Faculty.

Histology includes methods of injecting small animals, collecting, fixing, hardening, embedding, section cutting, mounting, staining, examining under the microscope, drawing and describing the different tissues.

Pathology is studied in text and reference books and morbid histology embraces naked eye and microscope examinations of diseased tissues in the laboratory. Quite a collection of diseased tissues and animal parasites is found in connection with the laboratory.

The laboratory is well fitted for the study of bacteriology. Bacteriological analysis of water, milk, sputum, pus, diseased tissues, and of soils can be made. All of the practical operations in the preparation of culture, media, sterilization, inoculations of small animals, staining, microscopical examinations, may be learned. In the laboratory are three Bausch & Lomb and two Winkel microscopes, each of which is supplied with oil immersion objectives, two oculars, Abbe condenser, and iris diaphragm. Sterilizers, autoclaves, incubators, and all the necessary apparatus required in bacteriological work are to be found in the laboratory.

The department of physiology and veterinary science is now located by itself in a building which consists of a two-story portion containing four laboratory rooms on the second floor and a lecture room, museum and office on the lower floor and a one-story part which contains an operating room.

THE
JOHN CRERAR
LIBRARY

LABORATORY OF PHARMACY.

The building is supplied with water and gas and the laboratory is now equipped for work. The museum contains the skeletons of the horse, the ox, the sheep, and the hog, and a human skeleton. It also contains anatomical models of the various parts and organs of the human body, and models of many parts of the horse, the ox and the other domestic animals. It also contains a collection of pathological and anatomical specimens, and one of animal parasites.

The new veterinary hospital building contains five large box-stalls, four open single stalls, an office and a feed room on the lower floor; the upper floor is used as a storage room for hay, fodder, etc. The hospital is supplied with fresh water.

This department has a new brick cement dissecting room (16x32). It is supplied with an extensive north skylight, and with water and gas.

Every Saturday during the college year the department conducts a free clinic for the benefit of the students in veterinary science and art. Clinical cases have been various and numerous, giving the students opportunity to see and study many diseases and lameness and to become proficient in minor operations.

BACTERIOLOGY AND THERAPEUTICS.

The senior class in pharmacy devotes six hours per week during the first and second terms to class room and laboratory work in bacteriology; and three hours per week during the third term to therapeutics.

PHARMACY AND PHARMACOGNOSY.

PROFESSOR MILLER.

ASSISTANT TROUTMAN.

JUNIOR YEAR.

Pharmacy.—Class work, *three hours* a week. The different systems of weights and measures. Specific gravity. Pharmaceutical problems. The fundamental operations in pharmacy. Apparatus used in pharmaceutical processes. Discussion of all classes of pharmaceutical preparations.

Laboratory, *nine hours* a week. Preparation of official and non-official galenicals.

Pharmacognosy.—Class work with laboratory work, *four hours* a week. All official vegetable drugs studied with aid of simple and compound microscope.

SENIOR YEAR.

Pharmacy.—Class work, *five hours* a week. Official and non-official pharmaceutical chemicals, inorganic and organic, including the more important newer remedies. The prescription. Incompatibilities. Doses.

Laboratory, *twelve hours* a week. Preparation of official and non-official pharmaceutical chemicals, inorganic and organic. Pharmaceutical testing by pharmacopœial methods. Drug assaying, special attention given to compounding of prescriptions.

Pharmacognosy.—Class work, with laboratory work, *four hours* a week. Study of important non-official vegetable drugs; of drugs of animal origin; of adulterants and worthless drugs. Practical exercises in identification of pharmaceutical preparations and chemicals.

The practical work in pharmacy includes the manufacture of not less than three hundred pharmaceutical preparations and the compounding of not less than fifty prescriptions.

The work in pharmacognosy includes the study of more than 300 drugs, each of which the student is required to recognize by its physical and chemical properties, giving Latin name, common name, origin, habitat, constituents, medicinal action and dose.

The work of the third year in the special course in Pharmacy embraces:

1. An advanced course in the manufacture of Galenicals and Organic and Inorganic Chemicals used in medicine.
2. A course in the testing of drugs and medicinal chemicals for impurities by Pharmacopeial methods.
3. A course in Pharmaceutical Assaying, including the assay of alkaloidal drugs, glucosidal drugs, resinous drugs, the valuation of fixed and volatile oils, pepsin, diastase, etc.
4. A course in Water Analysis.
5. A course in Milk and Butter Analysis.
6. A course in Physiological Chemistry.
7. A course in Organic Preparations.
8. An advanced course in Toxicological Analysis.
9. The presentation of a satisfactory Thesis.

Any one who completes the work of the three-year special course in such a manner as to prove himself a competent analyst will be granted a certificate as Pharmaceutical Chemist.

HORTICULTURE.

PROFESSOR MACKINTOSH.

ASSISTANT SARGENT.

Instruction in horticulture is given in the junior year. Class work consists of lectures, text-book work, reference reading and practice work in the greenhouse laboratory, gardens and orchards of the Experiment Station.

It is the aim to give considerable practice work so as to enable those taking the course to do the detail work in budding, grafting, making of cuttings, mixing spray materials and spraying, etc.

The subjects studied will be the growing of the various fruits and vegetables for home use and market, including methods of propagation, culture and fertilization of soil, gathering and marketing, and the insect and fungous diseases, with best methods of controlling them.

Text-books to be announced later.

MILITARY SCIENCE AND TACTICS.

COL. B. S. PATRICK, COMMANDANT.

Military science and tactics are required by law to be taught in this institution. The law is faithfully carried out by imparting to each student, not physically incapacitated to bear arms, practical instruction in the school of the soldier, of the company and of the battalion in close and extended order, also in guard mountings, inspections, dress parades, reviews, etc.

Under Section 1225, U. S. Revised Statutes, the College is provided with modern cadet rifles and accoutrements.

The following uniform of standard cadet gray cloth has been prescribed for dress: Coat and trousers as worn for fatigue at West Point, with dark blue cadet cap. A neat and serviceable uniform can be obtained here at $15 to $16. This is less expensive than the usual clothing. All students are required to wear this uniform during the session.

The entire body of students is divided into companies. The officers are selected for military efficiency, good conduct and scholarship. The commissioned officers will be selected from either the senior or junior classes, and promotion will depend on merit and not wholly on seniority.

A band, composed of cadets, furnishes appropriate music at all reviews and parades, and on other special occasions.

A student who has once accepted an office cannot resign it except for reasons entirely satisfactory to the President and the Commandant. The resignation of an office will usually not be considered without first placing all the circumstances of the case before his parent or guardian.

Candidates for appointment or promotion may be required to stand an examination. Moral fitness, including demerits, will be considered.

Examinations will be conducted by a board of officers, to be composed of the Commandant of Cadets and two commissioned officers, to be designated by him. The proceedings of the board are subject to revision and approval by the President of the College.

Each company is officered by one captain and two first lieutenants, one second lieutenant, and with a proper number of non-commissioned officers. The officers and non-commissioned officers are distinguished by appropriate insignia of rank. These appointments are confirmed by the President on nomination of the Commandant.

The junior class recites once a week in the United States Infantry Drill Regulations.

The senior class recites once a week in Wagner's Security and Information, and Manual of Guard Duty, U. S. Army.

On the graduation of each class the names of such students as have shown special aptitude for military service will be reported to the Adjutant-General of the U. S. army, and the names of the three most distinguished in military science and tactics will be inserted in the U. S. Army Register, and published in general orders from headquarters of the army.

CORPS OF CADETS.

CADET BAND.

The cadet band is a part of the military organization of the College. It takes part in the military and other exercises, and plays when its services are required.

Regular and individual instruction is given free of charge by the bandmaster. A text-book on general musical information is used in connection with the practical instruction.

A gold medal is given each year by the bandmaster to the member of the band who makes the best general record for the year. The presentation is made at Commencement.

MISCELLANEOUS.

GYMNASIUM AND ATHLETIC FIELD.

The gymnasium is situated at the west end of the athletic and drill grounds, and contains one room, 80x40 feet, with strong beams above for fastening the usual fixtures.

It is equipped with Spalding's gymnasium apparatus and is open to all students at stated hours, under the care of an officer.

The athletic field has a quarter-mile cinder track and ample space for football, baseball and general athletics.

DISCIPLINE.

The government of the College is administered by the President and Faculty in accordance with the code of laws and regulations enacted by the Trustees.

Attention to study and punctuality in attendance on recitations and all other duties, are required of every student. Students are prohibited from having in their possession arms or weapons not issued for the performance of military duty, and also from using or causing to be brought into the College limits, intoxicating liquors.

Students are not permitted to participate in any public entertainment, or game, without previously obtaining the consent of the Faculty.

No cadet will be permitted, without the approval of his parent or guardian, to take part in a public game of football; nor will permission be given for any athletic game to a student deficient in his studies.

MILITARY DRILL.

There are three regular military drills each week and all undergraduate students, not physically incapacitated to bear arms, are required to engage in these exercises; privates of the senior class are exempt.

The drills are short and the duty involves no hardships. The military drill is a health-giving exercise, and its good effects in the development of the *physique* and improvement of the carriage of the cadet are manifest.

RELIGIOUS SERVICES.

Religious services are held every morning in the chapel.

All students are required to attend these exercises, and also to attend the church of their choice at least once on Sunday.

Opportunities are also offered for attending Bible classes every Sunday.

YOUNG MEN'S CHRISTIAN ASSOCIATION.

This association is regularly organized and has a well furnished room on the first floor of a building set apart for its exclusive use. Through its weekly meetings it exerts a wholesome Christian influence among the students.

Students are advised to unite with the association when they enter the Institute.

The ladies of the different churches in Auburn are organized into an auxiliary association to the Y. M. C. A. of this Institute. Assisted by members of the Faculty, they will hold monthly a joint service of praise in the College chapel, and will provide lectures for the occasion.

They have also undertaken to build a special hall for the use of the Association, and will solicit subscriptions for that purpose.

The following are the officers:

Walter R. Samford	President.
C. K. Gould	Vice-President.
G. B. Skinner	Corresponding Secretary.
J. M. Poyner	Recording Secretary.
O. B. Cooper	Treasurer.
H. M. Averyt	Librarian.

LOCATION.

The Institute is situated in the town of Auburn, fifty-nine miles east of Montgomery, on the line of the Western Railroad.

The region is high and healthful, noted for its general good health and freedom from malaria, having an elevation of eight hundred and twenty-six feet above tide-water. By statute of the State the sale of spirituous liquors and keeping saloons of any kind are forbidden.

BOARDING.

The Institute has no barracks or dormitories, and the students board with families of the town of Auburn, and thus enjoy all the protecting and beneficial influence of the family circle.

REGULATIONS.

(1) Each student upon entering is required to sign his name in the matriculation book and pledge himself to obey the rules and regulations of the College.

(2) Every absence from recitation or examination is graded zero.

(3) When the term grade of a cadet is lowered by reason of absence for which satisfactory excuse can be rendered, a special term re-examination may be subsequently granted, and the grade made on the special re-examination alone is substituted for that previously received.

(4) Only sickness, as reported by the Surgeon, or absence by reason of family sickness, or official or collegiate business, will constitute a satisfactory excuse for granting a re-examination.

When a cadet is called away from college by his parents for reasons other than those specified above his zeroes for absence are not removed.

(5) The term grade of a student is the average of his daily sessional and term examination marks, found by giving due weight to the term examination.

(6) Privates of the senior class in full standing who are candidates for graduation may be excused by the President from all military drills, and also students over twenty-one years of age at the time of entering College that are permitted to devote their time to one special study, as chemistry, agriculture, or pharmacy, provided the time devoted to drill is spent by them in laboratory work.

No cadet can remain an officer who receives during the session more than seventy-five demerits.

DISTINCTIONS.

Distinctions are awarded in the different subjects of each class to those students whose grade for the entire year is above ninety per cent.

Certificates of distinction are awarded in public on Commencement day to those who obtain an average of ninety per cent. in all the prescribed studies of a regular class; and also to those who obtain three distinctions in the freshman class, four in the sophomore class, five in the junior class, and six in the senior class; provided they have satisfactorily passed all the regular examinations of that session, and have not received forty demerits during the year.

A distinction is not given in the senior class if the average grade in any one subject is less than 75 per cent.

HONORS.

Members of the senior class who attain distinction at the final examinations with an average grade, in the subjects required, of 95 per cent. will be published as

GRADUATES WITH HIGHEST HONOR.

Those who attain distinction with an average grade of 90 per cent. and less than 95 are published as

GRADUATES WITH HONOR.

Those who attain less than 90 per cent. and more than 60 per cent. are published as *Graduates*.

Students of the classes lower than the senior, who attain distinction with an average grade in the required subjects of 95 per cent. are published in alphabetical order as having attained the *Highest Distinction.*

RECORDS AND CIRCULARS.

Daily records of the various exercises of the classes are kept by the officers of instruction.

At the close of each term and at regular intervals reports giving the grade made by each student are sent to the parent or guardian.

EXAMINATIONS.

Written examinations on the studies of the month are held by each professor during the months of October, February and April. Each examination occupies one hour.

At the end of each term written examinations, or written and oral, are held on the studies passed over during that term.

Special examinations are held only by order of the Faculty, and in no case will private examinations be permitted.

Students falling below the minimum grade at the final examinations, can be promoted to full standing in the next higher class only on satisfactory examinations at the opening of the next session.

It is required that every student who enters the College shall remain through the examinations at the end of the term. Leaves of absence and honorable discharges will, therefore, not be granted within three weeks of the examination, except for providential reasons.

The following scholarships and prizes have been established:

THE WILLIAM LEROY BROUN MEMORIAL SCHOLARSHIP OF $170, established by the Alumni Society in memory of the late distinguished President of the Institute.

THE LIGON SCHOLARSHIP OF $170, established by Col. R. F. Ligon, Montgomery, Ala.

THE THOMAS SCHOLARSHIP OF $170, established by Judge William H. Thomas, Montgomery, Ala.

THE BALL SCHOLARSHIP OF $170, established by Mr. Fred S. Ball, Montgomery, Ala.

THE DUNKLIN SCHOLARSHIP OF $600, established by Mr. and Mrs. J. C. Street, Anniston, Ala., in memory of Prof. J. T. Dunklin, formerly Professor of Latin in the Institute.

The scholarships enumerated above are loan scholarships, granted to worthy young men or women, to be returned after graduation. No interest is charged until one year after leaving college.

The above-named scholarships and ten other scholarships are administered by the Alumni Society. For information address Wm. O. Scroggs, Secretary.

PRIZES.

The Oratorical Prize, medal to that member of the Junior class who composed and delivers the best oration on Junior Class day of Commencement.
1903, *John McDuffie,* Monroe County.

The Oratorical Prize for the Annual Inter-Literary Society Contest, February 22d.
1904, *K. L. Forrester,* Houston County.

Sophomore Medal in Declamation for annual contest, May 1st.
1903, *Walter R. Samford,* Lee County.

Prize for Best Debater, a medal given annually by the Board of Trustees to the best debater in the Wirt and Websterian Literary Societies each.

A Gold Medal, offered by Lewis Chapter of the Daughters of the American Revolution for the best historical paper by a young woman student. 1903, *Miss Sallie Fleming Ordway,* Tennessee.

A Prize of Fifty Dollars, offered by the Colonial Dames of Alabama, for the best historical paper on a colonial subject written by a young man student. 1903, awarded to *T. J. Dowdell.* Montgomery, Ala.

The Thomas Essay Prize, a gold medal offered by Judge William H. Thomas, of Montgomery, Ala., for the best written essay by any undergraduate student of the college. This essay must be written under the supervision of the department of English. 1903, awarded to *Louis Warren Duffee,* Mobile, Ala.

Battalion Medal for best drilled soldier. 1903, *B. L. Shi,* Georgia.

Battalion Sword for best drilled soldier. 1903, *T. H. Matson,* Talladega County.

Prize for Best Drilled Company, a sword given by Board of Trustees. 1903, *W. W. Rutland,* West Point, Ga.

LIBRARY.

The Library occupies an elegant well-lighted room in the main building, and also three adjacent rooms. It contains over 18,-

GENERAL LIBRARY.

THE
JOHN CRERAR
LIBRARY

000 bound volumes, including valuable reference and scientific books, with select editions of standard authors, and others suitable for students, carefully and recently selected. It is kept open eight hours daily for the use of students as a reading room and is thus made an important educational feature.

MUSEUM.

The Museum occupies a large room in the third story. It is provided with suitable cases and is equipped with valuable specimens and models of an instructive character.

BOARDING HOUSES.

For each house an inspector is appointed, whose duty it is to report those who, without permission, leave their rooms after "call to quarters," or are guilty of any violation of order. The report of the inspector is made to the Commandant on alternate days of the week.

Students, after selecting their boarding houses, are not permitted to make changes without obtaining permission from the President, and this permission is given only at the close of a term, except for special reasons.

Permission to board and lodge at separate houses will be granted only to seniors, to cadets twenty-one years of age, and to those who are on the "honor roll," except on special conditions.

EXPENSES.

There is no charge for tuition for a resident of Alabama.

Incidental fee, per session	$5 00
Library fee, per session	2 00
Surgeon's fee, per session	5 00
	$12 00

These fees are payable on matriculation. By order of the Trustees no fees can be remitted.

For students entering after January 1st, the fees for a half session only are required.

Board, including lodging, fuel and lights, is furnished at $12.50 to $15.00 per month.

For a non-resident of the State there is a charge for tuition of $20.00 per session, payable on matriculation, in addition to the annual fee of $12.00 payable by all students.

The necessary expenses for a session, not including uniforms or books, are for a resident of Alabama, as follows:

College fees	$12 00	$12 00
Board, lodging, fuel and lights	112 50	135 00
Washing	9 00	9 00
Total	$133 50	$156 00

By special arrangement with the College authorities, Mrs. M. L. Mitchell, Mrs. M. E. Howe and Mr. B. T. Blasingame will accommodate students with board lodging, fuel, etc., for $9.50 per month.

By boarding at one of these houses the necessary expenses may be reduced to $106.50 per session. This estimate does not include the cost of the uniform, about $15.00, or of books, say from $5.00 to $15.00, or the laboratory fees in the higher classes, $5.00 or $10.00.

LABORATORY FEES.

For each student in the junior or senior laboratory in pharmacy, chemistry, or in electrical or mechanical engineering, a fee of $2.50 per session is required for each department. This fee is payable *on admission to the laboratory,* and is not remitted.

NON-RESIDENT STUDENTS.

Tuition for students, not residents of Alabama, is $20.00 per session, unless remitted by the Trustees to worthy students upon the recommendation of the Faculty.

The remission of this tuition fee to non-resident students will be granted in the form of a free scholarship for the succeeding year, to those who obtain a distinction the preceding year, or who, by reason of merit, are deemed worthy.

This tuition for non-residents is remitted to sons of ministers of the gospel.

HONOR SCHOLARSHIPS.

The following non-resident students were granted, each by reason of special merit in conduct and scholarship during the session of 1902-1903, an honor scholarship, which exempted from tuition fees:

John Cleveland Bryan	Georgia.
Ralph Dudley	Georgia.
Berner Leigh Shi	Georgia.
Hiram Victor Arnold	Florida.
George Bridges Foss	Mississippi.

UNIFORMS.

A uniform of cadet gray cloth is prescribed, which all undergraduate students are required to wear during the session. The uniforms are made by a contractor, and are of excellent cloth manufactured at the Charlottesville mill. This suit, including cap, costs at present, $15.40. It is neat and serviceable, and less expensive than ordinary clothing.

CONTINGENT FEE.

A contingent fee of five dollars is required to be deposited by each student on matriculation, to cover any special or general damage to College property for which he may be liable. General damages are assessed on the body of students.

At the close of the session the whole of the contingent fee, or the unexpended balance, is refunded to the student.

AMOUNT OF DEPOSIT.

Fees to be paid on entrance:

Incidental fee	$ 5 00	
Library	2 00	
Surgeon	5 00	
Contingent fee	5 00	
Uniform	15 40	
For a resident of Alabama	$32 40	$32 40
Tuition non-resident		$20 00
For a non-resident		$52 40

Besides the above, the student should deposit with the Treasurer enough to pay for books, one month's board, incidentals, amounting to say, $27.50. Hence, a resident of Alabama should deposit with the Treasurer $60.00; a non-resident, $75.00.

FUNDS OF STUDENTS.

Parents and guardians are advised to deposit with the Treasurer of the College all funds desired for sons or wards, whether for regular charges or college fees or board, or for any other purpose. It is the duty of this officer to keep safely all funds placed in his hands, and to pay all expenses incurred by the students, including board, uniform, books, etc., when approved.

When funds are deposited checks are drawn on the Treasurer of the College by the cadet to pay his necessary expenses. These checks are paid only when officially approved. The approval is given only for necessary expenses, as stated in the catalogue, unless specially requested in writing by the parent.

The College cannot be held responsible for the expenses of a student, unless the funds are deposited with the Treasurer. No student should be permitted to have a large amount of pocket money, as it brings only trouble and encourages idleness.

THESIS.

Each applicant for a degree is required to write and submit to the Faculty a thesis, or oration, and read and deliver the same at Commencement, if required by the Faculty.

There may be presented, with the approval of the professor in charge, a carefully written report of special work done in a laboratory, showing independent investigation and discussion of some subject.

It must be given to the Professor of English by the first of May. The subject must be submitted for approval by January 1st.

LITERARY SOCIETIES.

There are two literary societies connected with the College—the Wirt and the Websterian. Each has a hall in the main building.

These societies hold celebrations on the evenings of Tranksgiving Day and 22d of February. A gentleman, selected by the Faculty, is invited to deliver an address before the Literary Societies at Commencement.

To encourage the literary societies the Trustees have directed that a medal be awarded on Commencement Day to the member of each society who is both efficient and regular in attendance, and who is the best debater. The method of selection is determined by the Faculty.

EXERCISES IN ELOCUTION.

On every Saturday morning, immediately after chapel services, oratorical exercises in declamation and in original orations are conducted by the Professor of English, in the presence of the Faculty and students.

The *first and second terms* the students of the junior and sophomore classes are exercised in original orations and in declamations.

The *second and third terms* the members of the senior class read essays or deliver original orations.

SOCIETY OF THE ALUMNI.

The annual alumni oration is delivered by a member of the society in Langdon Hall, on Alumni Day, Tuesday of Commencement week.

Thomas D. Samford, '88, Opelika, Ala	President.
R. F. Ligon, '82, Montgomery, Ala	Vice-President.
William O. Scroggs, '99, Auburn, Ala	Secretary.
B. H. Crenshaw, '89, Auburn, Ala	Treasurer.
William H. Samford, Troy, Ala	Orotar for 1904.

SURGEON.

The surgeon is required to be present at the College daily, to visit at their quarters the cadets that are reported sick, and to give all requisite medical attention without other charge than the regular surgeon's fee, paid on entering college.

ACADEMIC YEAR.

The academic year for 1904-1905 commences on Wednesday, 7th September, 1904, and ends on Wednesday, 7th June, 1905, which is Commencement Day.

It is divided into three terms. The first term extends from the opening of the session to the 23d December; the second term begins Wednesday, January 4th, and ends March 11th; the third term continues to the close of the session.

DONATIONS TO THE LIBRARY.

United States Government.—Public Documents, 242 volumes.

Harper & Brothers, New York.—The Rise and Progress of the Standard Oil Company. By Gilbert H. Montague.

J. G. Brill Company, Philadelphia.—The Car Builder's Dictionary.

W. & L. E. Gurley, Troy, N. Y.—Manual of American Engineers' and Surveyors' Instruments.

The National Sound Money League, New York.—The History of Coinage and Currency in the United States. By A. Barton Hepburn.

H. W. Bell, New York.—Letters and Addresses of Abraham Lincoln.

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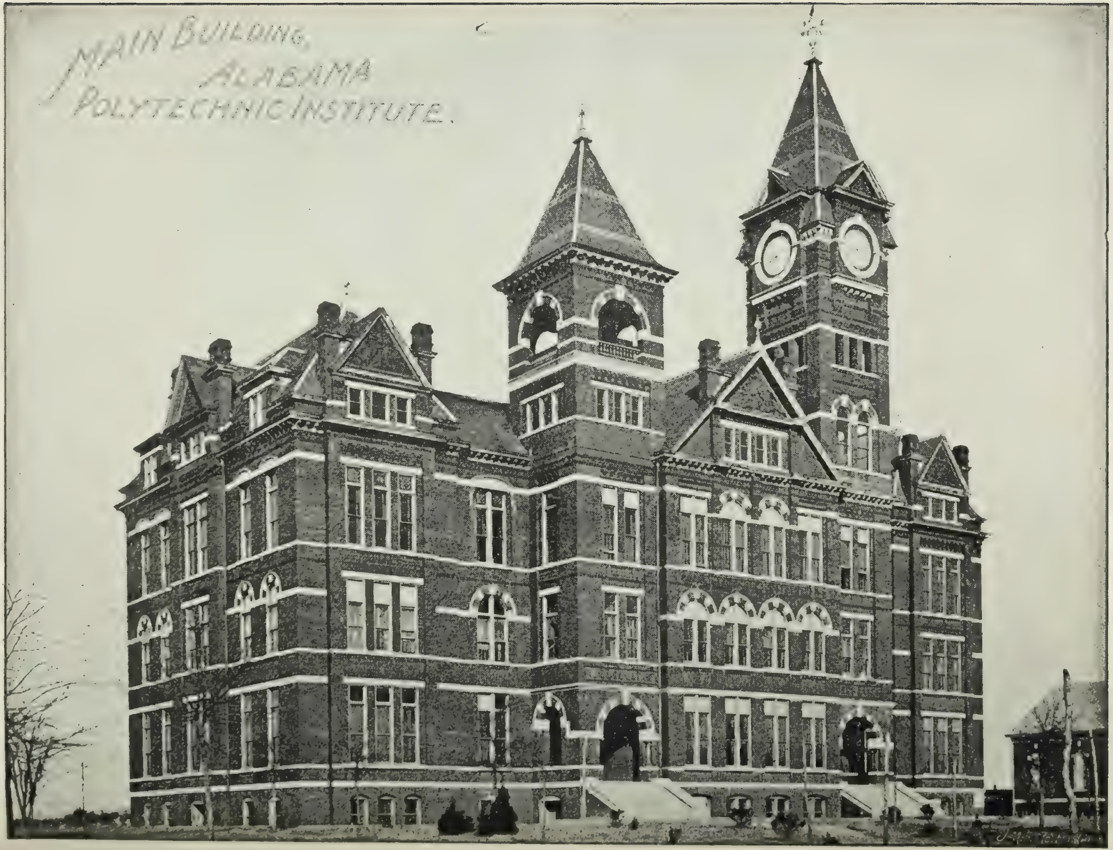
CALENDAR 1905-6

Session Begins	Wednesday, Sept. 6, 1905.
Examination for Admission	Wednesday, Sept. 6, 1905.
First Term Begins	Wednesday, Sept. 6, 1905.
Literary Society Celebration—Thanksgiving Day	Nov. 30, 1905.
First Term Ends	Friday, Dec. 22, 1905.
Second Term Begins	Wednesday, Jan. 3, 1906.
Literary Society Celebration	Thursday, Feb. 22, 1906.
Senior Class Exercises	Thursday, Feb. 22, 1906.
Second Term Ends	Saturday, March 10, 1906.
Third Term Begins	Monday, March 12, 1906.
Senior Thesis Reported	Saturday, April 28, 1906.
Sophomore Class Exercises	Tuesday, May 1, 1906.
Field Day	Tuesday, May 1, 1906.
Final Examination Begins	Saturday, May 19, 1906.
Commencement Sermon	Sunday, June 3, 1906.
Annual Meeting of Trustees	Monday, June 4, 1906.
Military Exercises, 4 P. M	Monday, June 4, 1906.
Junior Class Celebration, 8 P. M	Monday, June 4, 1906.
Alumni Day	Tuesday, June 5, 1906.
Military Exercises, 5 P. M	Tuesday, June 5, 1906.
Address before Literary Societies, 8 P. M	Tuesday, June 5, 1906.
Commencement Day	Wednesday, June 6, 1906.



MAIN BUILDING,
ALABAMA
POLYTECHNIC INSTITUTE.

CATALOGUE

OF THE

ALABAMA POLYTECHNIC INSTITUTE

STATE COLLEGE

FOR THE

BENEFIT OF AGRICULTURE AND THE MECHANIC ARTS

AUBURN, ALABAMA

1905

MONTGOMERY, ALA.:
THE BROWN PRINTING CO., PRINTERS AND BINDERS.
1905.

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Professors Smith, Ross, Wilmore.

Committee on Entrance Examinations,

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Committee on Examination of Special Students,

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Committee on Library,

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Committee on Athletics,

Professors Ross, Mitcham, Dunstan, Wilcox.

Committee on Grounds and Buildings,

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C. A. Cary, B. S., D. V. M	Veterinarian.
J. T. Anderson, Ph. D	Chemist in charge of Soil Investigation.
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R. S. Mackintosh, B. Agr	Horticulturist and State Horticulturist.

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Thomas Bragg, M. S	Assistant Chemist.
C. M. Floyd	Superintendent of Farm.
N. C. Rew, M. S	Instructor in Animal Husbandry.
C. F. Kinman	Assistant in Horticulture.

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Dr. C. A. Cary.

The Institute is a distinctive school of Science, and its applications; being also the State College for the benefit of Agriculture and the Mechanic Arts, established by the State in 1872 by endowing it with the land-grant appropriation made by the United States Congress in 1862.

The leading object of the Institute, in conformity with the act of Congress and the acts of the State Legislature, is to teach the principles and applications of science.

In its course of instruction it gives prominence to the sciences and their applications, especially to those that relate to agriculture and the mechanic arts; and at the same time the discipline and liberal education obtained by the study of language and other sciences are not neglected.

All students are required to study the English language. The Latin, French and German languages are also taught, and opportunity for their study is offered to students in any course.

The special and technical instruction given is thus based on a sound, general education.

In its different courses of education, work of great value to the youth of the State is accomplished by fitting them by a thorough science-discipline, in which manual training in the lower classes is made a prominent feature, for the successful and honorable performance of the responsible duties of life.

While every attention is given to the mental discipline of the students in endeavoring to train them to habits of accurate scientific thought, and thus to qualify them for the duties of life, their moral and Christian training will always constitute the prominent care and thought of the Faculty. The Institute thus endeavors to educate as well as instruct, to form character as well as give information of value.

LABORATORIES AND FACILITIES FOR INSTRUCTION.

The Institute now possesses facilities for giving laboratory instruction in applied science in the following departments:

I. IN AGRICULTURE.

The farm contains 304 acres, and is supplied with illustrative specimens of stock of select varieties.

The agricultural experiment station, established in connection with the College, where experiments and scientific investigations relating to agriculture are daily made, affords unusual opportunities to students to become familiar with agriculture, its defects and remedies.

The students of agriculture accompany the professor in the field, garden, conservatory, stock-yard, etc., where lectures are delivered in the presence of the objects discussed, and during the year exercises in practical agriculture of an educational character are given the students who enter upon this course of study.

II. IN MECHANIC ARTS.

The instruction in shop work is used as an auxiliary in technical education, and as a school of manual training in the arts that constitute the foundation of most industrial pursuits. The work performed by the students is instructive in character, and is intended to give the greatest amount of instruction in principles with the least repetition of operations, and the smallest consumption of time. The work is executed from drawings, and the instructor in charge of the classes makes the lessons before the class, or gives such specific directions as may be necessary to enable the student to make it. This is supplemented by individual instruction.

All students in the sub-freshman, freshman, and sophomore classes take this shop work, three periods a week, each period being two hours long. The purpose is not to teach a trade, but to train the eye, the hand, and the mind to more perfect coöperation, a training which will be of value in any pursuit of life. This training involves the principles at the foundation of all trades, and is, therefore, of equal value to a student who wishes afterwards to learn a trade.

Three-phase electric motors are used for driving the different shops, the motors receiving current from the large alternator in the dynamo room. The wood department is located in a room 90x50 feet, and is provided with a surface planer, a variety saw, a swing cut-off saw, a boring machine, a grindstone. There are, in addition, thirty benches for carpentry work, with the necessary tools.

The wood turning and pattern shop is located in a commodious room 40x60 feet, in the second story of the new Power House. It is equipped with twenty-eight wood turning lathes, a grindstone, a band saw, a buzz saw planer, a pattern maker's lathe.

In each of these departments special tools for occasional use are kept in a tool room for the purpose.

In addition to the regular carpenter tools in the benchs, each student is supplied with a set of chisels, and plane irons, with a locker to keep them in, and is held responsible for their care and condition.

The forge shop is equipped with twenty-four down draft forges, with anvils, hammers, sledges, and other tools necessary for blacksmith work, including a punch and shear for cutting and punching iron, and a blacksmith drill. The blast is supplied by a blower which is also used for supplying the foundry cupola with blast. The smoke from the forges is removed through underground passages by a 60-inch exhaust fan, and discharged into the chimney.

The foundry is equipped with a 23-inch Colliau cupola, having a melting capacity of 2,000 pounds of iron per hour, the necessary molding tools for bench and floor work, benches, a core oven, ladles, molding flasks, a foundry crane, etc. There is also a brass furnace with crucibles, crucible tongs and the appliances necessary for making brass castings.

The machine shop is a room 30x100 feet, and is equipped with nine 14-inch, two 16-inch, and one 18-inch engine lathes, one 10-inch speed lathe, a 20-inch drill press, a 10-inch sensitive drill, a 16-inch shaper, two iron planers, one 22-inch by 5-feet and the other 26-inch by 6-feet, a back geared universal milling machine with vertical milling attachment, a water tool grinder, a bench grinder, a universal grinding machine, a universal cutter and reamer grinder, a twist drill grinder, and a power hack saw. Three of the engine lathes have compound rests, three have taper attachments, and one is fitted with a turret and a large number of special tools and fixtures which practically convert it into a manufacturing lathe, and serve to illustrate the methods of manufacture by duplicate parts.

For chipping and filing, eighteen benches are fitted with vises and each student is supplied with hammer, chisels, files, and such other tools as he may need, and a locker in which to keep them. A gasoline engine is installed in one end of the shop, and is used for driving at times when the steam plant is not running.

The tool room is supplied with general machinist tools, such as chucks, drills, reamers, taps, dies, gauges, jigs, and special tools. A convenient room is supplied with lockers for keeping clothes, and basins supplied with hot and cold water for the use of the students. The different shops are equipped with electric lamps, and current is furnished when necessary.

III. IN PRACTICAL CHEMISTRY.

The chemical laboratory is supplied with modern apparatus, and in its equipment affords excellent facilities for instruction in practical chemistry and for investigation.

The investigations that are undertaken in this laboratory by scientific experts, in connection with the work of the agricultural experiment station, are of especial value to advanced students, and afford them unusual opportunities to learn the methods of scientific research.

The building contains a large general laboratory that accommodates sixty students, a special laboratory for seniors that will accommodate thirty students, a lecture room with a capacity for one hundred seats, and nine other rooms, all appropriated to instruction and research in chemistry.

IV. IN ELECTRICAL ENGINEERING.

The electrical laboratory is well equipped with modern appliances for instruction in electrical engineering. It occupies three large rooms in the basement, and is equipped with many instruments of precision.

In addition to resistance boxes, bridges, condensers, galvanometers, dynamometers, wattmeters, photometers, one 8½ K. W. Fort Wayne rotary converter, and other laboratory instruments, the department is supplied with respresentatives of most of the types of commercial electrical instruments from foreign and domestic makers.

The laboratory is also equipped with apparatus for making breakdown tests of insulating materials, up to 30,000 volts, also with spectroscopic apparatus for testing the quality of arc light carbons.

The dynamos occupy a separate building and are operated by a twenty-five horse power Atlas engine, and a sixty-horse power Harrisburg standard engine.

The following machinery is available for purposes of instruction. In direct currents: Twenty-five K. W. General Electric multipolar 125 volt generator; twelve K. W. Edison generator; seven and a half K. W. T.-H. generators; three K. W. Edison generator; three K. W. Weston generator; two and a half K. W. Star generator; nine-light T.-H. arc generator, with lamps; six-light Brush arc generator, with lamps; steam turbine headlight generating set; three twenty-horse power street railway motors; six-horse power motor; one-horse power Crocker-Wheeler motor; several small motors of various kinds.

In alternating currents: Seventy-five K. W. Bullock three-phase 220 volt revolving field generator; three K. W. Ideal three-phase generator, with set of pulleys for different speeds; one K. W. Fort Wayne alternator, which can be used as an alternator, or as an A. C. or D. C. motor; two ten-horse power Westinghouse three-phase motors, with autostarters (used for supplying power to shops); General Electric five-horse power three-phase motor; Stanley one-horse power two-phase motor; a number of transformers, including phasing transformers, transforming from 220 volts three-phase to 500 volts two-phase; several smaller A. C. motors of various patterns.

V. IN PHYSICS.

The physical laboratory occupies two rooms, one of these being permanently darkened for experimental work in light.

It is equipped with numerous standard instruments of precision, such as verniers, micrometers, cathetometers, a horizontal comparator, a Kater's reversion pendulum, balances, etc., and a quantity of minor apparatus.

Recently there has been added a concave grating spectrograph, a large induction coil of 12-inch spark, and other apparatus of value.

VI. IN BOTANY AND BIOLOGY.

The laboratory for plant morphology and histology adjoins the lecture room of the professor, and is well equipped for investigation along these lines. The experimental work in plant physiology and pathology is conducted by the students in the laboratory and adjacent greenhouse, both of which are being rapidly equipped and altered to accommodate this important line of work.

A botanic garden is being developed, and it is the intention to add as rapidly as possible representatives of the native flora of this State, and a good collection of the native medicinal plants. In this manner it is planned to secure from the garden its maximum assistance in the work of instruction. Special work in plant breeding and biometry will also be conducted in this garden.

VII. IN ENGINEERING AND SURVEYING.

The necessary apparatus for field work, including transits, levels, plane table, models of bridges, etc., is provided for the use of students, and the customary exercises in the field are given.

VII. IN DRAWING.

All students in the lower classes are required to take drawing, a study which tends to discipline the mind, as well as to train the eye and hand to accuracy of observation and execution. A large, well-lighted drawing room, which will accommodate fifty students, is provided, with tables, lock-boxes, etc.

IX. IN MECHANICAL ENGINEERING.

A very important adjunct to the text book work in the mechanical engineering course is the laboratory or experimental work that the students do during the senior year. Most of this work is now done in the lower story of the annex to the chemistry building, a room 30x60 feet in size. Steam is supplied by the boiler in the boiler house through a 3-inch steam main.

The equipment available for this instruction is as follows: A 35-horse power Cross compound engine, specially arranged for experimental work; a Wheeler surface condenser, and Worthington air pump and circulating pump; a 60-horse power Harrisburg engine; a 25-horse power Harris-Corliss engine; a 20-horse power Atlas engine; a 100-horse power Heine boiler; a Deane duplex steam pump; a 4½-horse power gasoline engine; an Ericsson hot air engine; a New York air pump; a Westinghouse air pump; an Ingersoll-Sargent air compressor; an electric headlight engine, indicators, calorimeters, thermometers, a pyrometer, scales, steam gauges, and an apparatus for testing gauges.

For testing the strength of material, there is a 35,000-pound Riehle Bros. testing machine, arranged for making transverse, compression, and tension tests, and micrometer apparatus for measuring the deformation of a specimen under stress. In addition to the above working apparatus, there are a number of sectional models of machines and appliances, and models of mechanical movements, all of which are extremely useful for the purposes of instruction.

X. IN MINING ENGINEERING AND METALLURGY.

A fully equipped laboratory has been established for work in determinative mineralogy. Ores of economic importance and rock-forming minerals are studied. Work tables to accommodate twenty-eight students are supplied with gas, water, reagents, blow pipes, and a standard set of measuring crystals.

The equipment also includes hand and reflecting goniometers for measuring crystal angles and petrographical microscopes for examination of minerals and rocks in thin sections.

The Metallurgical Laboratory is equipped in part with a jaw crusher, a roll crusher, a sampler, a model cyanide plant, assay furnace, and a chlorination plant.

There is a drawing room fitted up for instruction in mechanical drawing, making blue prints, maps, topographical drawings, tracings, and all drafting pertaining to mining operations.

XI. IN PHYSIOLOGY AND VETERINARY SCIENCE.

There has been constructed for the veterinary department a new and separate two-story building with nine rooms. It is provided with lecture room, office, working and operating rooms for clinical practice, and museum with skeletons of the domestic animals for instruction. Free clinics are given every Saturday for the benefit of the students in veterinary science.

There is a separate dissecting room constructed, with cement floor and north roof light, especially for this department. This laboratory is used by the professor and students each afternoon for three months.

XII. IN PHARMACY.

The laboratory of this department occupies the second floor of the annex to the chemical laboratory, and is provided with a sufficient supply of drugs and apparatus necessary for instruction in pharmaceutical preparations. The equipment of the laboratory includes: a Laurent Polariscope; a Pulfrich refractometer; vacuum distillery and drying apparatus, consisting of ½-horse power air pump, vacuum chamber, condenser, and receiver, a three-horse power electric motor, a receiver for fractional distillation under diminished pressure, a complete outfit for organic combustion work, a Brühl chemical balance.

The new Pharmaceutical Laboratory, on the basement floor of the Pharmaceutical building, is fitted with steam, and has a full equipment for research work in pharmaceutical chemistry.

The students work in the laboratory with the professor from five to eight hours, six days in the week.

The facilities are increased as means are available.

XIII. IN HORTICULTURE.

A plat of twenty acres is devoted to orchards, vegetables, fruits, flowers and grapes. There is a well appointed greenhouse, fitted with modern apparatus for ventilation, heat, etc. Accurate experiments are conducted in this department in fruit growing and the culture of the various vegetables adapted to this climate. Students are given in this laboratory practical instruction in grafting, budding, spraying, fertilization, gathering and marketing crops. Valuable coöperative work with the United States Agricultural Department has been undertaken in

MILITARY TACTICS.

Instruction in this department is given in conformity with the act of Congress. Students receive the benefit of regular military drill, and, in addition, the military system is used as a means of enforcing discipline and securing good order, promptness and regularity in the performance of academic duties.

This department is supplied with cadet rifles and accoutrements for the corps.

COLLEGE BUILDINGS.

The frontispiece is a representation of the main College building. It is 160x71 feet, and contains forty-five rooms. This building is not used for dormitories for students, but is appropriated to purposes of instruction and investigation.

It contains the lecture rooms and offices of the professors, laboratories, library, museum, armory, etc.

LANGDON HALL.

This is a two-story building, 90x50 feet. The second story is the audience hall, used for commencement and other public occasions.

The first story is appropriated to the laboratory of mechanic arts.

THE CHEMICAL LABORATORY.

As shown on the opposite page, this is a two-story structure, 40x60 feet, with a rear projection, 35x60 feet, of one story and basement, and contains eight rooms. The exterior is of pressed brick, with cut stone trimmings and terra cotta ornamentation.

In the basement are ample accommodations for assaying and storage.

The main laboratory will accommodate sixty students, and contains improved working tables, with water, gas and every necessary appliance for chemical work.

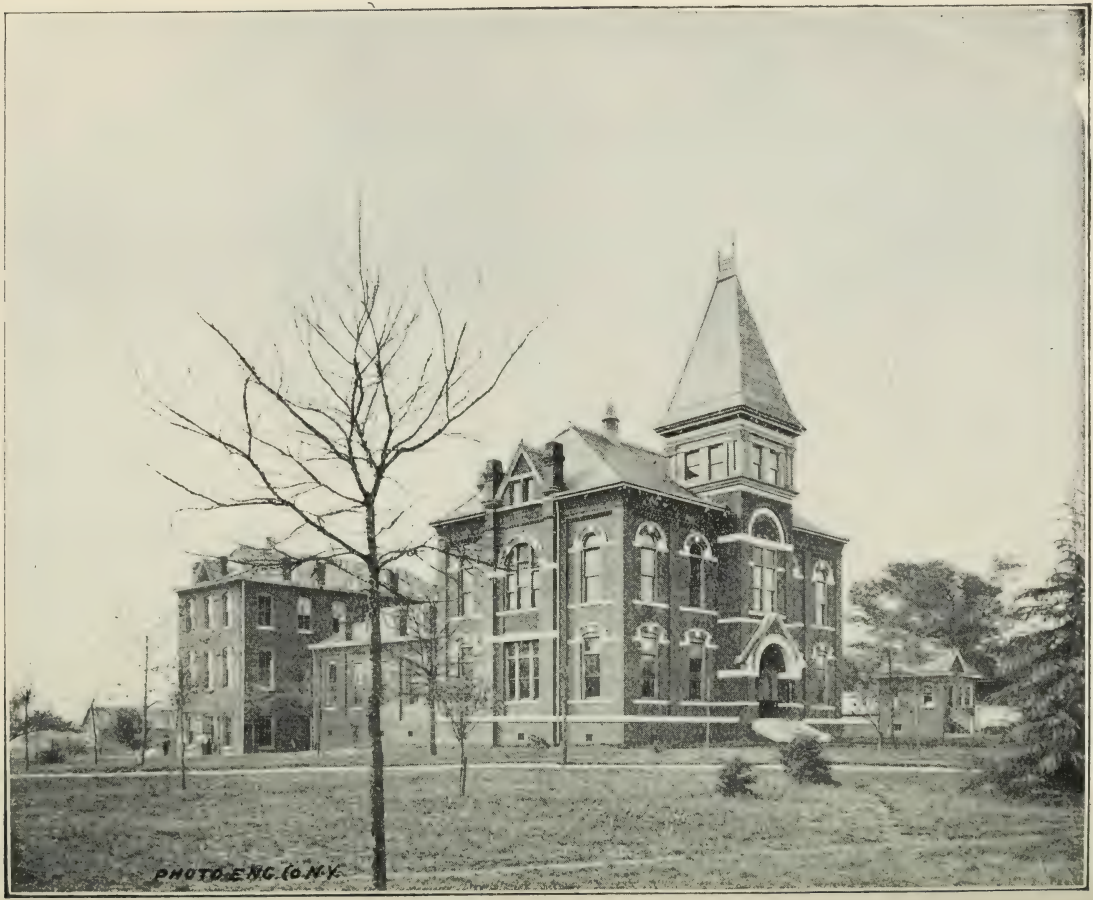
The laboratory for advanced work in chemistry will accommodate thirty students, and is equipped in the same manner. Adjoining this are two rooms which are used respectively as a balance room, and a room for work with spectroscope, polariscope, etc.

The second story contains a lecture room with seats and tablets for eighty students. Around the lecture room are cases containing crude and manufactured products, illustrating agricultural and mechanical chemistry, prominent subjects taught in the institution.

ANNEX TO CHEMICAL LABORATORY.

This is a three-story brick building, containing rooms for pharmacy, mechanical engineering and drawing.

The Chemical Laboratory for the Agricultural Experiment Station occupies a building 60x26 feet, and is appropriated exclusively for chemical investigation and research, and not for instruction.



CHEMICAL LABORATORY.

GRADUATES IN 1904

CLASS OF 1904

HONORS.

Members of the Senior Class who attained distinction with a grade of 95 per cent. are Graduates with Highest Honor. Those who attained a distinction with a grade of 90 per cent. and less than 95, are Graduates with Honor. Those who attained less than 90 per cent. and more than 60 per cent. are Graduates.

DEGREES.

BACHELOR OF SCIENCE.

GRADUATES.

William LeRoy Alston	South Carolina
Frank Gordon Bell	Lee
William Arthur Branan	Georgia
Andrew Duke Cameron	Macon
Julian Sidney Chambers	Russell
James Henderson Childs	Georgia
Felix Franz Otto Doering	Calhoun
Louis Warren Duffee	Mobile
Verlie Roy Emrick	Jefferson
Edwin Washington Ewing, Jr	Lowndes
George Bridges Foss	Mississippi
Walter Somerville Going	Jefferson
Leonard Park Hall	Jefferson
Guy David Hawkins	Jefferson
Bell George Hazard	Calhoun
Thomas Vandiver Herndon	Henry
Cassius Rex Hudson	Lee
James Dougherty Hudson	Georgia
Walter Weir Johnston	Calhoun

Isham Kimbell	Clarke
William Richard Lee	Jackson
Henry Richard Luscher	Mobile
Isaac Sadler McAdory	Jefferson
Henry McDonnell, Jr	Madison
John McDuffie, Jr	Monroe
Thomas Pettus McElderry	Talladega
Thomas Hatcher Matson	Talladega
Frank Elmer Miller	Calhoun
Fulton Pace	Tallapoosa
Edward Owen Perry	Georgia
Charles McPherson Adustan Rogers	Sumter
Cicero Rudd	Lee
Zachary Pope Smith, Jr	Jefferson
Edmund Rhett Taber, Jr	Montgomery
Albert Lee Thomas	Lee
William Micou Turnley	Montgomery
William Francis Ward	Lee
John Mayer Wilson, Jr	Clarke
William Mason Wilson	Etowah

GRADUATES WITH HONOR.

Heyman Hagedorn	Georgia
Walter Leonidas Harwell	Lee
Allen Green Jones	Dallas
Arthur Wilhelm Merkel	Jefferson
Frederick Shealy Middleton	Chambers
James Leonidas Murphy	Conecuh
Alma Cole Tompkins	Lee

GRADUATES WITH HIGHEST HONOR.

George Dunglinson, Jr	Talladega
Samuel Thomas Jones	Sumter
John William McConnell, Jr	Jefferson
William Hugh McEniry	Jefferson
William Martin Shepard	Mobile
Berner Leigh Shi	Georgia

POST-GRADUATE DEGREE.

MASTER OF SCIENCE.

James Victor Blackwell	Calhoun
Rush Pearson Burke	Montgomery
Charles Sanders Culver	Lee
William Watson Davis	Mobile
John Harris Mitchell	Georgia
Thomas William Morgan	Jefferson
John Rice Searcy	Conecuh

PROFESSIONAL DEGREE.

CIVIL ENGINEER.

Jacob Thompson Bullen	Alabama

DISTINGUISHED STUDENTS

DISTINCTIONS.

Students who receive a grade above 90 per cent. and less than 95 in three studies in the Freshman class, in four in the Sophomore class, in five in the Junior, and in six in the Senior, are distinguished for excellence in scholarship, and are awarded Certificates of Distinction. Those who receive a grade above 95 per cent. are awarded Certificates of Highest Distinction.

FRESHMAN CLASS.

DISTINCTION.

Grover Cleveland Emmons	Escambia
William Hardie, Jr	Jefferson
George Griffin Hughes	Marion
William Spence Lurton	Florida
Clifford Bartlett Richardson	Colbert
Edmund Augustus Wright	Tennessee

HIGHEST DISTINCTION.

Charles Mell Hudson	Lee
Norman Burns McLeod	Clarke
Evans Beauchamp Wood	Pike
James Alto York	Dale

SOPHOMORE CLASS.

DISTINCTION.

Henry Madison Averyt	Lee
Casper Carl Certain	Madison
Charles Abiatha Dean	Lee
Nimrod Davis Denson, Jr	Chambers
Mell Alexander Frazer	Mobile
Chester King Gould	Mobile
William Francis Jordan	Madison
Cincinnattus Decatur Killebrew	Dale
William James McBride	Morgan
Claude Stewart McNeely	Tallapoosa

Henry Gaston Mitchel	Tennessee
Frederick Henry Mohns	Jefferson
James Marion Poyner	Dale
Noah Parker Renfro, Jr	Lee

HIGHEST DISTINCTION.

Modesta Francis Beasley	Lee
James Robertson Black	Lee
Bertram Ezekiel	Butler

SPECIAL STUDENTS.

DISTINCTION.

Gilder Lemuel Payne	Jefferson

HIGHEST DISTINCTION.

Helen Tracy Parsons	Kansas

JUNIOR CLASS.

DISTINCTION.

William Brasher Clayton	Barbour
Obie Boland Cooper	Marshall
Kess Lawson Forrester	Houston
Alice Brown Frazer	Mobile
May Persis Harvey	Lee
John Howard McEniry	Jefferson
Enoch Lester Miller	Marshall
Cicero Louis Nelson	Baldwin
Walter Robert Samford	Lee
Henry Howard Thornton	Talladega

HIGHEST DISTINCTION.

Robert Platt Boyd	Montgomery
John Vernon Denson	Chambers
Ralph Dudley	Georgia
Samuel Luther Gipson	DeKalb
Earle Eugene Jenks	Mobile

COMMENCEMENT ADDRESS,

Rev. William Oxley Thompson, DD., President of University of Ohio.

CATALOGUE OF STUDENTS

FOR SESSION 1904-1905

GRADUATE STUDENTS.

Edwin Washington Ewing, Jr	Lowndes
Leonard Park Hall	Jefferson
Mollie Hal Hollifield	Lee
Cassius Rex Hudson	Lee
Allen Green Jones	Dallas
Isham Kimbell	Clarke
Thomas Hatcher Matson	Talladega
James Leonidas Murphy	Conecuh
Laurens Walter Pierce	Elmore
Berner Leigh Shi	Georgia
William Bee Stokes	Marion
Albert Lee Thomas	Lee
William Francis Ward	Lee

SENIOR CLASS.

Robert Evan Allison	Sumter
Eric Alsobrook	Chambers
Franklin King Beck	Wilcox
Fred Rudolph Bell	Lee
Malcolm Bell	Georgia
Harvey Emory Bennett	Lee
James Seaborn Boyd	Montgomery
Robert Platt Boyd	Montgomery
Thomas Cobb Bradford	Lee
James Austin Buchan	Pike
Robert Lee Butler	Madison
Edward Harman Cabaniss	Jefferson
Joel Philip Carter	Pike
William Brasher Clayton	Barbour
James Henry Coleman	Georgia
Obie Boland Cooper	Marshall

Robert Cowan	Lee
John Vernon Denson	Chambers
Ralph Dudley	Georgia
Edgar Ervin Esslinger	Madison
Devotie Glover Ewing	Lowndes
Josiah Flournoy	Georgia
Kess Lawson Forrester	Houston
Miller William Francis	Coosa
Alice Brown Frazer	Mobile
Samuel Luther Gipson	DeKalb
Leonard Graham Gresham	Autauga
May Persis Harvey	Lee
Morris Abram Hartz	Georgia
Frank Parkinson Howard	Macon
Earl Eugene Jenks	Mobile
Clifford Hasting Johnson	Georgia
Joseph Cabot Kellett	Marshall
Albert Roy Killebrew	Dale
Richard McCall McCulloh, Jr	Louisiana
John Howard McEniry	Jefferson
Enoch Lester Miller	Marshall
Louis Walton Montgomery	Lee
William Pitt Moon	Coosa
James Bruce Mosely, Jr	South Carolina
Clarence LaFayette Mullin	Lee
Cicero Louis Nelson	Baldwin
John Haygood Patterson	Montgomery
Henry Clarence Perkins	Barbour
Burke Benjamin Philips	St. Clair
George Wallace Postell	Jefferson
Francis Esten Purifoy	Wilcox
Forney Renfro	Lee
Randolph Smith Reynolds	Calhoun
Charles Claude Rigney	Madison
Walter Robert Samford	Lee
James Harrison Schuessler	Chambers
Linwood Seale	Sumter
George Burton Skinner	Marengo
William Hinton Tagert	Mobile
John Edward Thigpen	Lowndes
Henry Howard Thornton	Talladega

Charles Clement Voyle	Florida
Charles Spurgeon Waldrop	Jefferson
Drury Lee Walker	Jackson
David Gaston Wilkinson	Wilcox
Robert Hammett Witherspoon	South Carolina
Oliver Earle Young	Sumter

JUNIOR CLASS.

Otis DeWit Alsobrook	Chambers
Philip Holcombe Avery	Lee
Henry Madison Averyt	Lee
Camilla Mott Beasley	Lee
Modesta Francis Beasley	Lee
Sidney Morris Bernheim	Jefferson
Elbert Hamilton Betts	Texas
Shirley Houston Betts	Texas
James Robertson Black	Lee
Chester Sterrett Brown	Shelby
Edmund Cason Bunker	Henry
Sylvanus Leonidas Burney	Chambers
Charles Taylor Butler	Madison
Casper Carl Certain	Madison
Lemuel Jackson Cobb	Cherokee
Willard Cooper	Georgia
Benjamin Harris Cross	Lee
Ernest Percival Davis	Florida
Charles Abiatha Dean	Lee
Nimrod Davis Denson, Jr	Chambers
Thomas Lewis Dickson	Lee
George Traylor Edwards	Dallas
Bertram Ezekiel	Butler
Samuel Burwell Fort	Dallas
William Humphrey Foy	Barbour
James Clark Francis	Coosa
Mell Alexander Frazer	Mobile
Frederick Emanuel Geibel	Montgomery
Minos Edward Gibbs	Jefferson
Chester King Gould	Mobile
Lynwood William Gray	Calhoun
DuPont Guerry, Jr	Georgia

Hugh Scott Hagood	Conecuh
Clayton St. John Hale	Mobile
Lyman Compton Hall	Talladega
Leoline Hammack	Lee
Ethel Harrell	Lee
Preston Brooks Harrell, Jr	Dallas
Lieu Dolphus Hawkins	Tuscaloosa
Frank Hertz	Georgia
George Estes Hicks	Talladega
Gilbert Russell Hollinger	Wilcox
Shaffer Hood	Tallapoosa
*John David Hudson	Lee
Cincinnatus Decatur Killebrew	Dale
William Leonard Lett	Lee
William Madison Lewallen	Jackson
Charles Felton Little	Lee
Arthur Logue	Wilcox
Sidney Long	Butler
William James McBride	Morgan
Hugh Francis McElderry	Talladega
Abner Charles McGehee	Montgomery
Claud Stewart McNeely	Tallapoosa
William Monroe Meredith	Greene
Hinton Alfred Middleton	Chambers
John Augustus Miller	Calhoun
Henry Gaston Mitchel	Tennessee
William LeRoy Mitchell	Lee
Frederick Henry Mohns	Jefferson
Edward Preston Murphy	Butler
Walter Werle Peagler	Butler
Julius Franklin Peavy, Jr	Escambia
Henry Petersen	Jefferson
Martin Alexander Pool	Georgia
James Marion Poyner	Dale
Clifford Lewis Rabb	Escambia
Daniel Mitchell Rencher	Perry
Noah Parker Renfro, Jr	Lee
Thomas Byron Richardson	Marshall
Angel Esteban Sanchez	Nicaragua
Batt Lockard Spain	Mobile
Mabry Thomas Stallworth	Conecuh

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*Not in full standing.

Royden Keith Stanley	Chambers
Felix Eugene Watkins, Jr	South Carolina
Fletcher Gordon Webb	Lee
Clifford Anthony Marion Weber	Jefferson
Clarence Paul Welles	South Carolina
Hubert Whitaker	Louisiana
William Thomas White	Hale

SOPHOMORE CLASS.

John Davidson Alexander	Marengo
Clifford Goodman Arbery	Calhoun
James Edmund Fulton Beattie	Talladega
Byron Breckinridge Barnes	Marengo
William Rufus King Beck	Wilcox
Frederick Bolt	South Carolina
Milton Stanhope Brasfield	Marengo
George Marvin Brinson	Montgomery
William Franklin Brooks	Montgomery
James Daniel Browder	Sumter
Albert Cook Bryant	Wilcox
Newton Albert Burgess	Cleburne
John Wilton Burton	Lee
Benjamin O'Connor Childs	Georgia
George Washington Coker	Lowndes
Edward Tarleton Collier	Montgomery
Littleberry Calhoun Collins	Hale
Manly Allen Collins	Hale
Henry Hamlet Constantine, Jr	Calhoun
Elva Leland Cooper	Lee
Charles Van Wormer Cornell	Lee
Clarence Edward Cowan	Clarke
James Lile Cross	Lee
Mary Anne Cross	Lee
Julian Jarnigan Culver	Lee
Frederick Curtis	Escambia
Thomas Holden Daffin	Florida
Marion Brooks Davis	Geneva
John Cameron Dow	Barbour
Richard Hodges Drake	Lee
Grover Cleveland Emmons	Escambia

James Esdale, Jr	Jefferson
Walter Scott Farley	Lee
Arthur Hill Flowers	Montgomery
George Wesley Foster	Escambia
John Locke Gaston	Wilcox
William Morris Given, Jr	Jefferson
Richard Chiles Gowdey	Sumter
Edgar Daniel Greene	Chambers
Julian Casey Green	Lee
Oscar Casey Green	Lee
Seymour Hall	Jefferson
Irving Skinner Hannon	Mobile
William Hardie, Jr	Jefferson
John Henry Harper	Perry
Edwin Alexander Harriss	Georgia
Mary Meriwether Harvey	Bibb
Ambrose Harwell	Lee
*Charles Robert Hixon	Bullock
Henry Purser Hodges	Jefferson
Charles Mell Hudson	Lee
George Griffin Hughes	Marion
Feaster Ithamar Jones	South Carolina
Herschel Victor Killebrew	Georgia
Frank Dansby King	Montgomery
Chester Brannan Knapp	Lee
Francis Marion Knapp	Lee
John Ernest Kumpe	Lawrence
William Morris Lacey	Jefferson
Guy Lipscomb	Marengo
Herbert Dent Long	Barbour
William Spence Lurton	Florida
William Gaston Martin	Lee
Norman Burns McLeod	Clarke
Walter Winston McMichael	Georgia
Percy Brown McNeely	Lee
William Foster Mellon	Calhoun
Thomas Wilson Milner	Calhoun
Alfred Holley Mitchell	Lee
Roy Palmer Mitchell	Lee
Thomas Byrd Mobley	Escambia
Cecil Gause Moore	Montgomery

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*Not in full standing.

Earle Moore	St. Clair
Eugene Clift Morgan	Jefferson
Albert Moulthrop	Barbour
Thomas Gustave Mundy	Greene
George Feagin Orum	Bullock
Eugene Stewart Pace	Calhoun
James Madison Douglas Page	Jefferson
George Houston Palmer	Lee
DeWitt Thomason Peavy	Escambia
William Lewis Perdue	Butler
Harry Torrey Pillans	Mobile
Bernice Eugene Prather	Lee
Clifford Bartlett Richardson	Colbert
Charles Bradley Riddle, Jr	Jefferson
Charles Solomon Ripley	Georgia
Thurman Harold Robertson	Perry
Claude Jonathan Rogers	Jefferson
Mary Susan Samford	Lee
James Douglas Sample	Talladega
John Pickens Scarbrough	Calhoun
Thomas Lee Selman	Lee
Lucien Hamilton Shepard	Mobile
Samuel Robert Shi	Georgia
Lynn Thomas Shook	Jackson
Richard Walpole Sistrunk	Lee
Edward Hunter Cobb Smith	Macon
Roscoe Owen Stephenson	Walker
Clarence Buttan Stillman	Jefferson
Penrose Vass Stout	Montgomery
Benjamin Marcus Tarver	Dallas
John Bass Tarver	Bullock
Fletcher Jackson Thagard	Butler
Morgan Dillard Thompson	Tallapoosa
Ernest Wood Thornton	Talladega
James Ernest Threadgill	Marengo
Samuel Augustus Threadgill	Marengo
Francis Eugene Tompkins	Lee
Adie Goggins Walker	Coosa
Earle Volney Walkley	Lee
Thomas Van Zandt Watson	Georgia

Frank Lazenby Watt	Butler
Robin Monroe Webb	Jefferson
LeRoy George Weber	Jefferson
Henry Tompkins White	Colbert
Ralph Chester Williams	Russell
Daniel Elmer Wilkinson	Florida
Thomas McCottry Williams	Lowndes
Evans Beauchamp Wood	Pike
Edmund Augustus Wright	Tennessee
Homer Waller Wright	Lee
James Alto York	Lee

FRESHMAN CLASS.

Henry Winfield Allen	Marengo
John Martin Andrews	Chambers
Bennett Bagby	Lee
Arthur Thomas Baker	Georgia
Nicholas Lawrence Baker	Lee
*Robert Henry Barclift	Jefferson
Robert Evan Barnes	Monroe
Emmett Eason Binford	Lee
Ralph Upshaw Blasingame	Lee
*Louis Cecil Boykin	Lee
George Edwin Bradford	Lee
George Ernest Brown, Jr	Jefferson
Harry Lockwood Budd	Baldwin
Howard Butt	Montgomery
*William Guy Byars	Walker
Eugene Vernon Camp	Georgia
Charles Leonard Chambers	Jefferson
*Tolbert Fanning Cheek	Jefferson
Grover LaFayette Cleveland	Bibb
Harry Catchings Coleman	Barbour
*Thomas Joseph Constantine	Calhoun
George McCown Cook	Wilcox
Clarence Winston Cooper	Calhoun
John Thomas Cooper, Jr	Georgia
Millard Martin Cowden	Blount
J. D. Curtis, Jr	Escambia

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*Not in full standing.

Frank C. Daffin	Florida
Matthew Livingston Davis	Mobile
Charles Alexander Dean	Tallapoosa
Erward Sentle DeShazo	Shelby
Jasper Nuton Downs	Jefferson
Samuel Cellner Dreyfus	Montgomery
Joseph Littleton Edwards	Dallas
Macon Carmichael Ellis	Dallas
*Henry Hirman Epping	Georgia
Jacie Lee Esslinger	Madison
*Calvin William Fenn	Barbour
Charles Edward Fort, Jr	Dallas
Moses Frank	Montgomery
*Frederick Richmond Franks	Talladega
John Randall Goldthwaite	Pike
Alexander Smith Gossett	Georgia
John Hinton Graves	Talladega
Stuart Leland Greene	Mobile
James Patrick Griffith	Etowah
Herman Grimes	Wilcox
John Ephraim Harrison	Florida
Benjamin Allston Heyward	Georgia
Willis Jackson Hicks	Tallapoosa
Armstrong Hill	Talladega
Hendon Huey	Jefferson
*William Lemuel Ingram	Russell
Frank Jarrett	Jefferson
William Taylor Johns, Jr	Florida
*Clement Richardson Jones, Jr	Wilcox
Frank Jones	Jefferson
Henry Eugene Kimbrough	Wilcox
Leo Kling	Mobile
James T. Latimer, Jr	South Carolina
Robert Augustus Lee, Jr	Houston
Roy Henderson Liddell	Wilcox
James Samuel Lyell	Mississippi
Henry Churchill Marks	Montgomery
George Henry Marsh	Pike
Wilbon Franklin Massey	Crenshaw
Sydney James Mayhew	Madison

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*Not in full standing.

Ward McFarland	Bibb
Asa Smith John McKissick	South Carolina
Luther McMillan	Morgan
Robert Stewart McWhorter, Jr	Lowndes
Daniel John Meador, Jr	Marengo
Fred Augustus Miller	Covington
Clarence Edward Mohns	Jefferson
John J. Morris, Jr	Geneva
Harris Claude Neil	Georgia
William Thomas Owen	Calhoun
Edwin Steele Partridge	Mobile
Wallace Bruce Paterson	Montgomery
Robert Trent Pearce	Chambers
Daniel Francis Petty	Mobile
Herbert Davis Posey	Jefferson
*Osie Clyde Prather	Lee
Edmund Greer Randle	Jefferson
Obie Riddle	Coosa
Albert Price Rogers	Marengo
Harrell Vance Rogers	Jefferson
John Routledge	Jefferson
Norman Joseph Searcy	Butler
Anderson Cleveland Sellers	Montgomery
Francis Minor Shepard	Mobile
Alvin Travis Simmons	Monroe
Bennett Thomas Simms	Sumter
Frank Bean Skeggs	Morgan
William Wallace Skewes	Jefferson
James Lister Skinner	Lee
Olin Conway Skinner	Lee
Pickett Chauncey Smith	Montgomery
Percy Marsh Smith	Choctaw
James Gardner Somerville	Pickens
Thomas Whit Sparks	Walker
John Bowie Steadham	Lee
James Thomas Steele	Marengo
William B. Stewart	Barbour
Rufus Snow Stewart	Calhoun
Charles Hubbard Still	Chambers
George Jefferson Street	Clay
Albert Lucas Tait	Wilcox

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*Not in full standing.

William Conyers Thompson	Lee
Grover Cleveland Walker	Coosa
Cecil Corniff Walkley	Lee
Bernard Augustus Webb	Lee
Edward Cleveland Wilcox	Bibb
Julian Williams	Sumter
Robert Winkler	Butler
Sidney Harvey Winslow	Morgan
Edwin McUin Wood	Pike
Grannville Allen Young	Montgomery
Ward Adam Young	Dallas

SPECIAL AND IRREGULAR STUDENTS.

Ernest King Armstead	Clarke
William Sylvester Bailey	Tennessee
Ross Goldsmith Blanton	Lee
Edward Worswick Braswell	Georgia
Samuel Davis Brown	Georgia
Rufus White Butler	Lee
Dupree Clay Cameron	Greene
Paul DeVendel Chaudron	Mobile
William Isaac Cole	Jefferson
Bernard Labroquere Crozier	Maryland
Shelby Montgomery Cullom	Jefferson
Smith Coffee Daniell	Mississippi
Luther Davis	Tuscaloosa
Ovid Raymond Eatman	Greene
Ernest S. Ford	Pike
John Thomas Formby	Calhoun
James Earle Fritter	Clarke
Victor Hedge Gardner	Sumter
Cecil Gilchrist	Lowndes
Albert Ringo Gresham	Autauga
Robert Irvin Hamilton	Talladega
Hardie Brown Hewitt	Lauderdale
Robert Lee Hudson	Marengo
Percy Wilbur Hudson	Lee
Isham Smith Ingram	Russell
Clyde White Jones	Bibb
Emmett Llewellen Jones	Calhoun
Edward Philip Lacey	Jefferson

Wales Wallace Lewis	Georgia
Caleb Howell Lindsey	Mobile
Langford John Locke	Mobile
William Henry May, Jr	Dallas
William Jackson Marsh	Pike
FrederickMcGehee	Chambers
Robert Bascom Nixon	Sumter
Thomas Roswell Parish	Barbour
Helen Tracy Parsons	Kansas
Gilder Lemuel Payne	Jefferson
Bennett Henderson Pearce	British Honduras
William Perdue	Lowndes
Paul Pool	Jefferson
Grover Cleveland Prowell	Marengo
James Henry Riedemann	Mobile
Dorsey Marriott Rice	Georgia
Solomon Simon	Marengo
Arthur Claude Smith	Elmore
Frederick David Spruance	Colbert
Samuel Ernest Starr	Wilcox
William Charles Streit	Jefferson
Charles Branch Waddle	Tennessee
Samuel Carter Weems	Bullock
Ralph GordonWilliams	Jefferson
Byron W.Windham	Covington
Mary Kate Wills	Lee
Robert Ray Wright	Bibb

SUB-FRESHMAN CLASS.

Croft Able	Covington
Grover Able	Covington
George Maynard Alvis	Lee
Percy Crump Anders	Tuscaloosa
Waldo Floyd Anderson	North Carolina
James Hunter Batchelor	Houston
Joe Turner Benson	Crenshaw
George Shields Bishop	Colbert
Lawton Lee Blanton	Lee
Alston Francis Boyd	Sumter
William Calvin Boyd	Sumter

Frank Philip Brothers	Calhoun
Warland Burke	Madison
William Henry Caldwell	Jefferson
David Walter Castleberry	Talladega
Alva B. Chaney	Choctaw
Lawrence William Clark	Jefferson
Robert Cobb	Sumter
Abram C. Cook	Wilcox
Thomas Danby Cunningham	Marengo
Jesse Dixon	Escambia
William Cobb Dozier	Perry
Frank Irvin Eatman	Greene
George Philip Edwards	Lee
William Jackson Garnett	Morgan
James Gillis Gauntt	Tallapoosa
James Lane Henderson	Calhoun
Weddie Gwin	Jefferson
Daniel Herren	Elmore
Harry Cleveland Hillhouse	Jefferson
Claude Milford Howard	DeKalb
Jacob Fletcher Julian	Fayette
Frederick William Lange	Jefferson
Hunter Lett McDuffie	Monroe
John Richard McGhee	Crenshaw
John Thomas Merrill	Shelby
Alexandro Honorio Montenegro	Nicaragua
John Irby Morgan	Talladega
Robert Fearn Murray	Madison
Ralph McKay	Barbour
Harry Campbell Neill	Jefferson
Edward Nixon	Mobile
Louis Ethelbert Otts	Hale
Clarence Leigh Pegues	Perry
Allen Karl Randle	Jefferson
George Washington Reaves	Tallapoosa
August Routledge	Jefferson
Moscow Savage	St. Clair
Newman Gary Smith	Colbert
Bruner Jones Smith	Lauderdale
Benjamin Milton Speilberger	Colbert
John Paul Starr	Wilcox

Gordon Gillespie Stimpson	Marengo
John Walthall Stickney	Hale
John Logan Strock	Chilton
George Boyd Traylor	Lowndes
Joseph Kittrell Trotter	Jefferson
Benjamin Hill Turner	Cleburne
Harry Thornton Turner	St. Clair
Leo Malone Warten	Lowndes
James Mortimer Weems	Bullock
Alvin William Winzerling	British Honduras
Frank Sidney Wise	Madison

SUMMARY.

Graduate Students	13
Senior Class	63
Junior Class	80
Sophomore Class	123
Freshman Class	118
Special and Irregular Students	55
Total in College Classes	452
Sub-Freshman Class	63
Total	515

NUMBER OF STUDENTS IN EACH SUBJECT OF STUDY.

English	435
History	306
French	27
German	36
Latin	110
Mental Science	10
Political Economy	55
Mathematics	454
Chemistry	212
Chemical Laboratory	182
Agriculture	137
Physics	314
Physical Laboratory	72
Botany	67
Horticulture	21
Geology	62
Civil Engineering	35
Electrical Engineering	78
Mechanical Engineering	68
Mining Engineering	17
Drawing	436
Mechanic Arts	333
Military Department	477
Mineralogy	22
Physiology	119
Veterinary Science	30
Pharmacy	22
Bacteriology	9

RESIDENCE BY STATES.

Alabama	453
Georgia	29
Florida	8
South Carolina	8
Tennessee	4
Mississippi	2
Louisiana	2
Texas	2
British Honduras	2
Nicaragua	2
North Carolina	1
Kansas	1
Maryland	1
Total	515

MILITARY ORGANIZATION

FOR SESSION OF 1904-1905.

President,
CHARLES COLEMAN THACH.

Commandant,
COL. BENJAMIN S. PATRICK.

Surgeon,
J. H. DRAKE.

Post Adjutant,
MAJOR B. L. SHI.

Battalion Staff,

Cadet Captain R. P. Boyd, Adjutant.
Cadet Captain M. W. Francis, Quartermaster.
Cadet Sergeant W. H. Foy, Sergeant Major.
Cadet Sergeant L. C. Hall, Quartermaster Sergeant.

Cadet Captains,

1. O. E. Young.
2. R. M. McCulloh.
3. J. H. Paterson.
4. H. H. Thornton.

Cadet First Lieutenants,

1. R. Dudley.
2. E. H. Cabaniss.
3. E. Alsobrook.
4. L. Seale.
5. E. E. Esslinger.
6. J. E. Thigpen.
7. L. G. Gresham.
8. H. E. Bennett.
9. J. V. Denson.

Cadet Second Lieutenants,

1. G. W. Postell.
2. C. C. Rigney.
3. J. H. Schuessler.
4. O. B. Cooper.

Cadet First Sergeants,

1. C. K. Gould.
2. F. H. Mohns.
3. C. S. McNeely (Band.)
4. J. R. Black.
5. H. A. Middleton.

Cadet Sergeants,

1. M. A. Frazer.
2. C. A. Dean.
3. S. Long.
4. N. P. Renfro.
5. L. W. Gray.
6. H. Petersen.
7. C. C. Certain, (Color Sergeant.)
8. J. M. Poyner.
9. H. M. Averyt.

H. G. Mitchel.

11. S. Hood.
12. G. R. Hollinger.
13. C. D. Killebrew.
14. P. H. Avary.
15. G. T. Edwards.

Cadet Corporals,

1. N. B. McLeod.
2. E. B. Wood.
3. E. A. Wright.
4. C. M. Hudson.
5. W. S. Lurton.
6. G. J. Lipscomb.
7. E. W. Thornton.
8. W. M. Lacey.
9. W. Hardie.
10. D. E. Wilkinson.
11. G. C. Emmons.
12. W. L. Perdue.
13. S. R. Shi.
14. P. V. Stout.
15. W. S. Farley.
16. L. T. Shook.
17. J. A. York.
18. G. G. Hughes.
19. F. J. Thagard.
20. H. H. Constantine.
21. B. O. Childs.
22. T. H. Robertson.
23. E. H. C. Smith.
24. R. H. Drake.
25. C. S. Ripley.

The A. P. I. Cadet Band.

M. THOMAS FULLAN, Bandmaster.
R. DUDLEY, Principal Musician.
O. B. COOPER, Drum Major.

N. A. Burgess.
L. J. Cobb.
C. V. Cornell.
J. J. Culver.
M. L. Davis.
C. A. Dean.
J. N. Downs.
R. H. Drake.
G. C. Emmons.
J. C. Green.
O. C. Green.
J. H. Harper.
J. E. Harrison.
B. A. Heyward.
J. D. Hudson.
W. T. Johns.
A. Montenegro.
W. R. Samford.
T. W. Sparks.
J. B. Steadham.
E. V. Walkley.
C. P. Welles.
E. M. Wood.
H. W. Wright.

Cadets of the graduating class who were reported to the Adjutant General, U. S. Army, for publication in the "Official Army Register" as having ranked highest in the Military Department:

1889.

A. St. C. Dunstan.
B. H. Crenshaw.
A. J. Burr.

1890.

F. D. Milstead.
J. W. Bivins.
G. W. Emory.

1891.

L. E. Baker.
C. C. Johnson.
F. J. Bivins.

1892.

H. F. Dobbin.
A. L. Jones.
C. L. Brown.

1893.

Joel Dumas.
C. H. Smith.
J. F. Webb.

1894.

C. S. Andrews.
P. P. McKeown.
R. T. Dorsey.

1895.

S. L. Coleman.
H. H. Smith.
L. B. Gammon.

1896.

A. L. Alexander.
W. L. Fleming.
W. M. Williams.

1897.

P. G. Clark.
G. M. Holley.
G. N. Mitcham.

1898.

A. H. Clark.
A. McB. Ransom.
John Haralson.

1899.

I. F. McDonnell.
A. H. Feagin.
T. W. Wert.

1900.

E. M. Mason.
H. P. Powell.
C. W. Nixon.

1901.

A. F. Jackson.
J. D. Foy.
P. S. Haley.

1902.

W. D. Willis.
J. E. D. Yonge.
J. B. Garber.

1903.

H. E. Davis.
H. M. Yonge.
T. J. Dowdell.

1904.

J. McDuffie.
B. L. Shi.
George Dunglinson, Jr.

REQUIREMENTS FOR ADMISSION.

All applicants for admission should present testimonials of good moral character, and those who come from other colleges must present certificates of honorable discharge.

To enter the freshman class the applicant must be not less than fifteen years of age, and should be qualified to pass a satisfactory examination on the following subjects:

1. Geography and History of the United States.

2. English—(a) English grammar as contained in any standard text. (b) An examination upon sentences containing incorrect English. (c) A composition giving evidence of satisfactory proficiency in spelling, punctuation, grammar, and division into paragraphs.

(d) *Reading.* The composition of 1905 will be upon subjects drawn from one or more of the following works in English Literature: (1) Hughes's *Tom Brown at Rugby;* (2) Goldsmith's *Vicar of Wakefield;* (3) Shakespeare's *Julius Caesar;* (4) Longfellow's *Evangeline;* (5) Scott's *Ivanhoe;* (6) Shakespeare's *Merchant of Venice;* (7) Irving's *Sketch Book;* (8) Macauley's *Essay on Milton;* (9) Scott's *Marmion;* (10) Dickens's *David Copperfield.*

The candidate will be required to present evidence of a general knowledge of the subject matter, and to answer simple questions on the lives of the authors. This part of the examination is intended only to test a general knowledge of the substance of the books.

(e) *Study and Practice.* This part of the examination presupposes the thorough study of the style of the work, and will be upon *Julius Caesar* and the *Essay on Milton.*

Preparation and examination on these works will be necessary before the student is classed as regular in any course.

3. Mathematics—(a) Arithmetic, including fundamental operations; common and decimal fractions; denominate numbers; the metric system; percentage, including interest and discount; proportion. (b) Algebra to quadratic equations; especial preparation is urged in *fundamental operations*: *factoring, multiples, divisors* and *fractions;* (c) two books of geometry.

4. Those applicants who desire to continue the study of Latin should be qualified to pass a satisfactory examination in Latin grammar and the first two books of Caesar, in addition to the above subjects.

In pronouncing Latin it is recommended that *ă* be pronounced as in *father; ă* as the *a* in *Cuba; ē* as in *prey; ĕ* as in *men; ī* as in *machine, i* as in *cigar; ō* as in *old; ŏ* as in *obey; ū* as in *rule; ŭ* as in *full; j* as *y* in *yard; c* always as *k* in *king; g* always as *g* in *get.*

For admission to the higher classes, students should be prepared to stand satisfactory examination in all of the studies of the lower classes, as shown in the course of study. Students applying for admission to the sophomore class will be examined in mathematics through quadratic equations and logarithms in algebra, and on seven books in geometry. Where opportunity has not been offered to pursue special studies required at this college, the system of equivalents will be adopted, and studies which denote an equivalent amount of discipline and training will be accepted as satisfactory. But if not prepared to pass an examination in history and chemistry at the time of application, the applicant will be required before graduation to pass a satisfactory examination on these subjects.

It is absolutely essential that students who hope to succeed should be well grounded in arithmetic, algebra, and geometry.

A working knowledge of the metric system should also be obtained.

ADMISSION ON CERTIFICATE.

Applicants will be admitted without examination on presenting a certificate from any of the CERTIFICATE SCHOOLS named herein.

The following educational institutions having made application to be correlated to this college, and having presented an approved course of study, are hereby declared to be CERTIFICATE SCHOOLS, and are granted the privilege set forth in the following:

"Students from certificate schools will be admitted to the fresh-
" man class *without examination* upon the certificate of the presi-
" dent or principal, showing definitely that such students have
" completed satisfactorily all the studies required for admission, as
" stated in the catalogue, and are otherwise admissible."

The privilege of admitting students to the sophomore class on certificates will be granted only to those approved schools that have had a continuous existence for five years or more and have previously had pupils admitted to that class without conditions.

The following form of certificate will be used:

I hereby certify that A------------B----------has attended the (*name the school or academy*) for----------years, and has studied the following subjects:

in History--(*name the books*)
in English---------------------------------------(*name the books*)
in Algebra---------------------------(*state amount accomplished*)
in Geometry--------------------------(*state amount accomplished*)
in Latin--(*state books read*)
and having passed a satisfactory examination on these subjects as required in the catalogue for admission to the----------------class, he is recommended for the same.

Admission by certificate is regarded as provisional.

That is, though admitted to the class for which the certificate calls, the applicant may be required to take special examination in any subject in which his preparation proves unsatisfactory, or, after a fair trial, he may be dropped to a lower class, if he fails to maintain standing in the class to which he may be admitted.

CERTIFICATE SCHOOLS.

University Military School, Mobile	J. D. Wright.
Verner Military Institute, Tuscaloosa	W. H. Verner.
University School, Montgomery	J. M. Starke.
Mt. Willing High School, Mt. Willing	J. Knight.
State Normal School, Jacksonville	C. W. Daugette.
Male Academy, Huntsvile	F. Puryear.
Furman Academy, Livingston	L. A. Cockrell.
High School, Opelika	G. W. Brock.
Eighth District Agricultural School, Athens	Prof. Fouche.
Sixth District Agricultural School, Hamilton	E. F. Cauthen.
Eutaw Male Academy, Eutaw	H. C. Horton.
Anniston Training School for Boys	W. A. White.
Birmingham Classical School	J. O. Webb.

University High School, Birmingham	I. J. White, M. B. Dickinson.
Fourth District Agricultural School, Sylacauga	T. A. Anderson.
Gaylesville High School	John R. Ray.
Oxford Graded Schools	John R. Bell.
Carrollton Academy	L. V. Rosser.
Ninth District Agricultural School, Blountsville	J. A. B. Lovett.
Gadsden High School	W. E. Striplin.
Boyd High School, Brundidge	B. H. Boyd.
Eufaula High School	F. L. McCoy.
Union Springs High School	J. M. Sanders.
Montgomery High School	C. L. Floyd.
Sycamore Academy	C. C. Slaton.
Southern Agricultural School, Abbeville	J. V. Brown.
Barnes's School, Montgomery	E. R. Barnes.
Jackson Agricultural School	Douglas Allen.
Pensacola Classical School	H. C. Armstrong.
Grady Institute, Ft. Valley, Ga	W. J. Scroggs.
Pratt City High School	P. M. McNeil.

ADMISSION OF YOUNG WOMEN.

The privilege of becoming students in this college is granted by the trustees to young women of mature mind and character, on the following conditions:

The applicant must be seventeen years of age, and if a candidate for a degree, be able to pass a satisfactory examination in each of the four subjects named below.

If the applicant is a candidate for admission as a special or irregular student, she must be able to pass a satisfactory examination in two of the subjects named, and may be admitted at an age less than seventeen, with a resident of Auburn acting as guardian, if application is approved by the faculty.

(a) In English—Proficiency in spelling and punctuation; Grammar (Lockwood-Whitney); Rhetoric (Lockwood and Emerson's Composition and Rhetoric and Newcomer's Rhetoric); Scudder's Masterpieces of American Literature; Syle's From Milton to Tennyson.

For requirements in reading in literature see page 38.

(b) In History—Macy's Our Government; Chambers's History of the United States; Myers's General History.

(c) In Mathematics—Arithmetic; Algebra, including quadratic equations, logarithms and series; Plane and Solid Geometry; Plane and Spherical Trigonometry, as in Wentworth.

(d) In Latin—Grammar, including the forms and syntax; Jones's Latin Prose Composition; translations of selections from Cæsar, Nepos, Virgil, Cicero's Orations, Cicero's Letters, or the equivalent.

The equivalents of these subjects, as in above text-books, may be substituted.

When admitted, upon complying with the conditions above stated, the applicants may enter upon the study of any subject taught in the college and join any class, for which upon examination, they may be found qualified. The only condition imposed will be that they engage in earnest study, and attend the exercises regularly. They will board in town with private families, and attend college only at the hours of their exercises.

ENTRANCE EXAMINATIONS.

Entrance examinations will be held on Wednesday, the 6th of September, the day on which the session opens. Candidates will be also be examined during the session, when application is made for admission.

Applicants who are not prepared to stand the entrance examinations for full admission to the freshman class are admitted to the sub-college department, provided they are sixteen years of age, and are found after examination qualified to profit by the instruction given. Those who, after admission, are inattentive to their studies, and neglectful of their duties, will be required to withdraw, but those who are studious and make sufficient progress will be advanced to full admission to the freshman class when they are qualified to pass satisfactorily the required examinations.

Students, upon their arrival at Auburn, will report immediately to the President. No student will be admitted to a recitation in any class previous to matriculation.

NUMBER OF EXERCISES REQUIRED.

All students are required to have *not less than fifteen* recitations per week, or their equivalent, in addition to the exercises in laboratory work, drawing and military drill. These additional exercises occupy not less than twelve hours per week, and in all give twenty-seven to thirty hours per week required in college exercises.

SPECIAL AND IRREGULAR STUDENTS.

The privilege of electing studies in the lower classes is not granted to young students nor to their parents.

The faculty will assign a student, on admission, to that class of a prescribed course for which he is qualified, and for special reasons, approved by the faculty, he may be permitted to become irregular.

Students qualified to prosecute the studies of the junior class, and those over twenty-one years of age, that are not candidates for a degree, are permitted to take, with the advice of the faculty, the subjects of study for which they may on examination prove themselves qualified.

For an applicant to enter upon the study of Civil, Mining, or Electrical and Mechanical Engineering as a special or irregular student, he must have studied algebra through quadratics and logarithms, plane geometry, and plane trigonometry .

The professor in charge of a department will decide by examination whether a special student is prepared for admission to his class.

A student who does not take all the studies in a class of one of the degree courses, as prescribed in the catalogue, and is permitted to take an irregular course, will be assigned to a member of the faculty,wh o will act as his special adviser, and when his course of study has been approved by the faculty, no other change will be permitted without the endorsement of his adviser.

Regular students who fail to pass satisfactory final examinations in any one study become irregular students. They will be classed as regular students pursuing a course for a degree, whenever they can pass the examinations in those subjects in which they were found deficient.

Students, candidates for a degree, who are not in full standing in all the prescribed studies of a class, rank in the military department with that class in which they have the greatest number of studies, and their names are so placed in the catalogue.

ADMISSION TO HIGHER CLASSES.

At the beginning of each term a student in the sub-freshman class may, on application approved by the faculty, be examined for admission to the freshman class in history, English, mathematics, and be admitted to the freshman class in those subjects in which he passes a satisfactory examination.

Students who have completed satisfactorily all the studies of the sophomore class, as prescribed in the catalogue, in any one of the regular degree courses, can enter, without condition, the junior class in any course, except in the general course, or the course in pharmacy, in which Latin is required.

Students who are admitted to the junior class from other institutions, on examination in English, Latin, and mathematics, and who have not completed all the studies of the sophomore class, in order to graduate, will be required to complete the course in chemistry and history as taught in the sophomore class. In addition to these subjects, students who thus enter the junior class of the course in chemistry and agriculture, either from this institution or other institutions, will be required to complete the course in botany and physiology in the sophomore class.

COURSES OF INSTRUCTION.

The courses of study include the Physical, Chemical, and Natural Sciences, with their applications; Agriculture; Biology; Mechanics, Astronomy, Mathematics; Drawing; Civil, Electrical, Mechanical, and Mining Engineering; Physiology and Veterinary Science, Pharmacy; English, French, German, and Latin Languages; History, Political Economy; Mental and Moral Sciences.

The studies are arranged in regular courses so as to offer liberal and practical education as a preparation for the active pursuits of life.

There are seven degree courses for undergraduates, each leading to the degree of Bachelor of Science (B. S.) and requiring four years for its completion.

I. COURSE IN CHEMISTRY AND AGRICULTURE.

II. COURSE IN CIVIL ENGINEERING.

III. COURSE IN ELECTRICAL AND MECHANICAL ENGINEERING.

IV. COURSE IN MINING ENGINEERING.

V. GENERAL COURSE.

VI. COURSE IN PHARMACY.

VII. COURSE IN CHEMISTRY AND METALLURGY.

There are also four partial courses, as follows:

VIII. TWO-YEAR COURSE IN AGRICULTURE.

IX. TWO-YEAR COURSE IN MECHANIC ARTS.

X. TWO-YEAR AND THREE-YEAR COURSE IN PHARMACY.

Course I. includes theoretical and practical instruction in those branches that relate to chemistry and agriculture, and is especially adapted to those who propose to devote themselves to agriculture or chemical pursuits.

Course II. includes the principles and applications of sciences that directly relate to civil engineering, and is adapted to those who expect to enter that profession .

Course III. includes, besides the general principles and applications of the sciences, a special course in the applications of electricity and mechanics, and is arranged for the profession of electrical and mechanical engineering.

Course IV. includes theoretical and practical instruction in geology, mineralogy, chemistry, civil and electrical engineering, as applied to mines; mapping, exploration; boring; ventilation; timbering, and all the operations pertaining to the profession of mining engineering.

Course V. has been arranged to give a general and less technical education in subjects of science and language to meet the wants of those students who have selected no definite vocation in life, as well as of those who propose ultimately to engage in teaching or in some commercial or professional business.

Course VI. includes, besides the general education of course IV. in the lower classes, a special course in pharmacy and chemistry, and is adapted to those who expect to become pharmacists, manufacturing chemists, or to enter upon the study of medicine.

Course VII. provides for thorough theoretical and practical instruction in pure and technical chemistry and metallurgy, and in the scientific branches relating thereto. Students taking this course also pursue the study of German or French during the Junior and Senior years, and are thus prepared to utilize for reference the scientific journals and works published in those languages.

Courses VIII. IX. and X. have been arranged for the benefit of those students who, for reasons satisfactory to themselves, are unable to continue at college four years and to take one of the regular degree courses.

A student who completes satisfactorily all the work of the senior class in a department, including the laboratory work, will be awarded a certificate of proficiency in said subject.

Students who complete one of the two-year courses will, on passing a satisfactory examination, receive certificates indicating their attainments.

A student who completes the work of the three-year course in pharmacy and submits a satisfactory thesis will be granted a certificate as Pharmaceutical Chemist.

No degree or certificate of proficiency will be given in any course unless the applicant has passed a satisfactory examination in elementary English. Every candidate for a degree will be required to stand this special examination during the second term of the senior year.

Declamations and themes or orations are required of all regular students pursuing courses leading to a degree.

POST-GRADUATE COURSES.

A more extended post-graduate course of study may be taken by a graduate of this college or of any other institution of equal grade. The completion of a course which leads to a post-graduate degree of Master of Science requires one year's residence at the college, spent in the satisfactory prosecution of a course of study, with such laboratory work as may be approved by the faculty.

The candidate must also present to the faculty a satisfactory thesis showing independent investigation upon some subject pertaining to his course, and must pass an examination, at the close of each term, on the course of study prescribed, in which he must attain a grade of 75 per cent. The examination is written, and also oral in the presence of the faculty.

The subject of the thesis must be submitted to the faculty for approval prior to January 1st, and the thesis given to the professor of English by May 1st.

Applicants for a post-graduate degree and special students in post-senior studies are subject to the same general regulations as other students, and *pay the same fees;* but are exempt from all military duty.

The following courses are prescribed for the degree named:

1. *Master of Science.*—Studies in three departments, in two of which the candidate must have previously completed the full course of the senior class; or in special cases, with the approval of the faculty, a student may devote his full time to work in two departments, in each of which he has completed the full senior course.

2. *Master of Science in Pharmacy.*—Pharmacy and chemistry.

3. *Civil Engineer.*—Civil Engineering, mathematics, and analytical mechanics, or mining engineering.

4. *Electrical Engineer; Mechanical Engineer.*—Electrical engineering, mechanical engineering.

5. *Mining Engineer.*—Students who have received the degree of B. S., in engineering, mining, civil, or electrictl and mechanical, or in the course of chemistry and metallurgy, or who have prosecuted an equivalent course of study, can enter upon a special course of mining engineering, which includes the following subjects of study:

Industrial chemistry, analytical chemistry, assaying, reduction of ores, mineralogy, economic geology, with practical work in the field, mining machinery, with the application of steam and electricity to the various operations connected with the exploitation of mines.

The student, if a candidate for a degree, will also be required to prosecute the necessary studies in that course of engineering in which he has not graduated. This course of study will be under the charge of the professors in the different engineering departments, the professor chemistry, and the professor of mining engineering and geology.

Special Students in Post-Senior Studies.—Students who are not graduates, but are qualified in special subjects to prosecute post-senior studies, and desire to prepare themselves more thoroughly for professional or special work in any one of the departments of engineering, in chemistry or pharmacy, veterinary science, or other subjects in which instruction is given, may, when qualified, with approval of the faculty, enter this higher department of study and have all the privileges of post-graduate students.

A certificate of proficiency will be given when any one subject of a post-graduate course is satisfactorily completed.

Two degrees will not be given the same year.

PROFESSIONAL DEGREES.

The professional degree of Civil Engineer, Electrical Engineer, Mechanical Engineer or Mining Engineer, will be given six years after receiving the degree of Bachelor of Science, provided four years of the intervening time have been spent in a responsible position in practical engineering work in that department in which the degree of Bachelor of Science was received, and an approved thesis is submitted to the faculty, with a report of the character of the work done.

SPECIAL ONE-YEAR COURSE IN AGRICULTURE.

Young men over twenty-one years of age who desire to study agriculture will be permitted, without examination, to enter any class under the professor of agriculture, and will be excused from reciting in any other class, from military duty, and from all other college duties; but will be under the general college regulations, and will be required to have their time fully occupied.

They may attend the lectures in agriculture in all the classes and engage in the practical work at the experiment station, in the field, stock-yard, dairy, garden, orchard, vineyard, etc., and may thus, in one year acquire valuable practical knowledge of scientific agriculture.

LABORATORY INSTRUCTION.

NOTE.—Special work in English or History may be taken by students in the general course as a substitute for laboratory work.

Laboratory instruction constitutes an important feature in the course of education provided for the students of this institute, and as far as possible all students are required to enter upon laboratory work in some one department.

Laboratory instruction and practical work are given in the following departments:

I. CHEMISTRY.

II. CIVIL ENGINEERING, FIELD WORK, SURVEYING, ETC.

III. AGRICULTURE.

IV. BOTANY.

V. MINERALOGY.

VI. BIOLOGY.

VII. TECHNICAL DRAWING.

VIII. MECHANIC ARTS.

IX. PHYSICS.

X. ELECTRICAL ENGINEERING.

XI. MECHANICAL ENGINEERING.

XII. MINING ENGINEERING, MAPPING, FIELD WORK, ETC.

XIII. PHYSIOLOGY AND VETERINARY SCIENCE.

XIV. PHARMACY.

XV. HORTICULTURE.

XVI. PHOTOGRAPHY.

I. COURSE IN CHEMISTRY AND AGRICULTURE.

The numerals opposite the subjects indicate the number of hours per week.

FRESHMAN CLASS.

First Term.	*Second Term.*	*Third Term.*
5. English.	5. English.	5. English.
2. History.	2. History.	3. History.
5. Mathematics.	5. Mathematics.	5. Mathematics.
3. Elementary Physics.	3. Elementary Physics	2. Agriculture.
3. Drawing.	3. Drawing.	3. Drawing.
6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y.
3. Military Drill.	3. Military Drill.	3. Military Drill.

SOPHOMORE CLASS.

First Term.	*Second Term.*	*Third Term.*
3. English.	3. English.	3. English.
3. History.	3. History.	3. Botany.
5. Mathematics.	5. Mathematics.	5. Mathematics.
3. General Chemistry.	3. General Chemistry.	3. General Chemistry.
2. Agriculture.	2. Agriculture.	2. Agriculture.
3. Drawing.	3. Drawing.	3. Drawing.
2. Physiology.	2. Physiology.	2. Physiology.
2. Chemical Lab'y.	2. Chemical Lab'y.	2. Chemical Lab'y.
6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y.	3. Military Drill.
3. Military Drill.	3. Military Drill.	4. Agricultural Lab'y.
4. Agricultural Lab'y.	4. Agricultural Lab'y.	4. Botanical Lab'y.
		2. Horticultural Lab'y.

JUNIOR CLASS.

First Term.	*Second Term.*	*Third Term.*
3. English (a).	3. English (a).	3. English (a).
3. Physics.	3. Physics.	3. Physics.
2. Agricultural Chem.	2. Agricultural Chem.	3. Industrial Chem.
2. Agriculture.	2. Agriculture.	3. Horticulture.
2. Botany.	2. Botany.	2. Botany.
1. Military Tactics.	3. Horticulture.	1. Military Tactics.
2. Veterinary Science.	1. Military Tactics.	2. Veterinary Science.
3. Clinical Lab'y.	2. Veterinary Science.	3. Clinical Lab'y.
6. Chemical Lab'y.	3. Clinical Lab'y.	6. Chemical Lab'y.
2. Botanical Lab'y.	6. Chemical Lab'y.	2. Botanical Lab'y.
2. Agricultural Lab'y.	2. Botanical Lab'y.	4. Horticultural Lab'y.
3. Military Drill.	4. Horticultural Lab'y.	3. Military Drill.
	2. Agricultural Lab'y.	
	3. Military Drill.	

SENIOR CLASS.

First Term.	*Second Term.*	*Third Term.*
2. English Literature.	2. Political Econ. (b).	2. Political Economy.
2. Mental Science (c.)	2. Mental Science (c).	2. Mental Science (c.)
2. Physics.	2. Physics.	2. Astronomy.
2. Geology.	2. Geology.	2. Geology.
2. Botany.	2. Botany.	2. Botany.
2. Agriculture.	2. Agriculture.	2. Agriculture.

1. Military Science.	1. Military Science.	1. Military Science.
6. Chemical Lab'y.	6. Chemical Lab'y.	6. Chemical Lab'y.
2. Veterinary Science.	2. Veterinary Science.	2. Veterinary Science.
3. Clinical Lab'y.	3. Clinical Lab'y.	3. Clinical Lab'y.
4. Botanical Lab'y.	4. Botanical Lab'y.	4. Botanical Lab'y.
2. Agric. Lab'y. (1, 2).	2. Agric. Lab'y. (1, 2).	

(a) French or German may be substituted.

(b) Begins Feb. 15th. (c) German or French may be substituted.

II. COURSE IN CIVIL ENGINEERING.

The numerals opposite the subjects indicate the number of hours per week.

FRESHMAN CLASS.

First Term.	*Second Term.*	*Third Term.*
5. English.	5. English.	5. English.
2. History.	2. History.	3. History.
5. Mathematics.	5. Mathematics.	5. Mathematics.
3. Elementary Physics.	3. Elementary Physics	2. Agriculture.
3. Drawing.	3. Drawing.	3. Drawing.
6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y.
3. Military Drill.	3. Military Drill.	3. Military Drill.

SOPHOMORE CLASS.

First Term.	*Second Term.*	*Third Term.*
3. English.	3. English.	3. English.
3. History.	3. History.	3. Elem't'y. Mechanics
5. Mathematics.	5. Mathematics.	5. Mathematics.
3. General Chemistry.	3. General Chemistry.	3. General Chemistry.
2. Physiology.	2. Physiology.	2. Physiology.
3. Drawing.	3. Drawing.	3. Drawing (a).
6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y.
2. Chemical Lab'y.	2. Chemical Lab'y.	2. Chemical Lab'y.
2. Physical Lab'y. (b.)	2. Physical Lab'y.	2. Physical Lab'y.
3. Military Drill.	3. Military Drill.	3. Military Drill.

JUNIOR CLASS.

First Term.	*Second Term.*	*Third Term.*
3. English, French or German.	3. English, French or German.	3. English, French or German.
3. Physics.	3. Physics.	3. Physics.
5. Mathematics.	5. Mathematics.	5. Mathematics.
5. Civil Engineering.	5. Civil Engineering.	5. Civil Engineering.
5. Drawing.	5. Drawing.	5. Drawing.
1. Military Tactics.	1. Military Tactics.	1. Military Tactics.
6. Lab'y. Mechanic Arts, (c).	6. Lab'y. Mechanic Arts, (c).	6. Lab'y. Mechanic Arts, (c).
1. Field Work, Engineering.	1. Field Work, Engineering.	1. Field Work, Engineering.
3. Military Drill.	3. Military Drill.	3. Military Drill.

SENIOR CLASS.

First Term.	*Second Term.*	*Third Term.*
2. English Literature, (d).	2. Political Economy, (d).	2. Political Economy, (d).
2. Physics.	2. Physics.	2. Astronomy.
2. Geology.	2. Geology.	2. Geology.
3. Mathematics.	3. Mathematics.	3. Mathematics.
5. Civil Engineering.	5. Civil Engineering.	5. Civil Engineering.
5. Drawing.	5. Drawing.	5. Drawing.
1. Military Science.	1. Military Science.	1. Military Science.
4. Mech. Eng. Lab'y.	4. Mech. Eng. Lab'y.	4. Mech. Eng. Lab'y.
Field Work Engineering.	Field Work Engineering.	Field Work Engineering.

(a) Perspective Drawing, or Mechanical Drawing.

(b) Agriculture may be substituted.

(c) Or Mineralogy. (d) French or German may be substituted.

III. COURSE IN ELECTRICAL AND MECHANICAL ENGINEERING.

In freshman and sophomore classes the same studies are prescribed as in Course II in Civil Engineering.

JUNIOR CLASS.

First Term.	*Second Term.*	*Third Term.*
3. English, French or German.	3. English, French or German.	3. English, French or German.
3. Physics.	3. Physics.	3. Physics.
5. Mathematics.	5. Mathematics.	5. Mathematics.
4. Electrical Engineering.	4. Electrical Engineering.	4. Electrical Engineering.
3. Mechanical Engineering.	3. Mechanical Engineering.	3. Mechanical Engineering.
4. Mechanical Drawing.	4. Mechanical Drawing	4. Mechanical Drawing
4. Electrical Lab'y.	4. Electrical Lab'y.	4. Electrical Lab'y.
6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y.
1. Military Tactics.	1. Military Tactics.	1. Military Tactics.
3. Military Drill.	3. Military Drill.	3. Military Drill.

SENIOR CLASS.

First Term.	*Second Term.*	*Third Term.*
2. English Literature, (a).	2. Political Economy, (a).	2. Political Economy, (a).
2. Physics.	2. Physics.	2. Astronomy.
2. Materials of Machines.	2. Indicator Practice.	2. Pumping Machinery.
3. Mathematics.	3. Mathematics.	3. Mathematics.
5. Electrical Engineering.	5. Electrical Engineering.	5. Electrical Engineering.
5. Mechanical Engineering.	5. Mechanical Engineering.	5. Mechanical Engineering.

2. Electrical Designing.	2. Electrical Designing	2. Electrical Designing
6. Electrical Lab'y.	6. Electrical Lab'y.	6. Electrical Lab'y.
4. Mech. Eng. Lab'y.	4. Mech. Eng. Lab'y.	4. Mech. Eng. Lab'y.
1. Military Science.	1. Military Science.	1. Military Science.

(a) French or German may be substituted.

IV. COURSE IN MINING ENGINEERING.

In freshman and sophomore classes the same studies are prescribed as in Course II in Civil Engineering.

JUNIOR CLASS.

First Term.	*Second Term.*	*Third Term.*
3. English, French or German.	3. English, French or German.	3. English, French or German.
3. Physics.	3. Physics.	3. Physics.
5. Mathematics.	5. Mathematics.	5. Mathematics.
5. Mining Engineering.	5. Mining Engineering.	5. Mining Engineering
3. Drawing.	3. Drawing.	3. Drawing.
2. Mineralogy.	2. Mineralogy.	2. Mineralogy.
4. Lab'y. Mineralogy.	4. Lab'y. Mineralogy.	4. Lab'y. Mineralogy.
6. Machine Shop.	6. Machine Shop.	6. Machine Shop.
3. Field Work.	3. Field Work.	3. Field Work.
1. Military Tactics.	1. Military Tactics.	1. Military Tactics.
3. Military Drill.	3. Military Drill.	3. Military Drill.

SENIOR CLASS.

First Term.	*Second Term.*	*Third Term.*
2. English Literature, (a).	2. Political Economy, (a).	2. Political Economy, (a).
2. Physics.	2. Physics.	2. Astronomy.
2. Geology.	2. Geology.	2. Geology.
3. Mathematics.	3. Mathematics.	3. Mathematics.
3. Mining Engineering.	3. Mining Engineering.	3. Mining Engineer'g.
2. Electrical Engineering.	2. Electrical Engineering.	2. Metallurgy.
2. Metallurgy.	2. Metallurgy.	3. Drawing.
3. Drawing.	3. Drawing.	1. Military Science.
1. Military Science.	1. Military Science.	8. Chem. Lab'y. and Assaying.
8. Chem. Lab'y. and Assaying.	8. Chem. Lab'y. and Assaying.	3. Field Work.
3. Field Work.	3. Field Work.	

(a) French or German may be substituted.

V. CHEMISTRY AND METALLURGY.

The numerals opposite the subject indicate the number of hours per week. In the freshman and sophomore classes the same studies are prescribed as in either Course I. in Agriculture and Chemistry, or in Course V. in General Course.

JUNIOR CLASS.

First Term.	*Second Term.*	*Third Term.*
3. English.	3. English.	3. English.
3. Physics.	3. Physics.	3. Physics.
4. Industrial Chemistry.	4. Industrial Chemistry.	4. Industrial Chemistry.
2. Organic Chemistry.	2. Organic Chemistry.	2. Organic Chemistry.
4. *Mineralogy (Lab'y.)	4. Mineralogy Lab'y.)	4. Mineralogy Lab'y.)
2. Descrip. Mineralogy.	2. Descrip. Mineralogy.	2. Descrip. Mineralogy.
1. Military Science.	1. Military Science.	1. Military Science.
9. Chemical Lab'y.	9. Chemical Lab'y.	9. Chemical Lab'y.
3. Military Drill.	3. Military Drill.	3. Military Drill.

SENIOR CLASS.

First Term.	*Second Term.*	*Third Term.*
2. English Literature.	2. Political Economy.	2. Political Economy.
2. Physics.	2. Physics.	2. Astronomy.
3. German or French.	3. German or French.	3. German or French.
2. Geology.	2. Geology.	2. Geology.
3. Metallurgy and Engineering Chem.	3. Metallurgy and Engineering Chem.	3. Metallurgy and Engineering Chem.
2. Analytical Chemistry.	2. Analy. Chemistry.	2. Analyt. Chemistry.
1. Military Science.	1. Military Science.	1. Military Science.
9. Chemical Lab'y. and Assaying.	9. Chemical Lab'y. and Assaying.	9. Chemical Lab'y. and Assaying.
3. Metallurgical Designing.	3. Metallurgical Designing.	3. Metallurgical Designing.

*Mechanic Art Laboratory may be substituted.

VI. GENERAL COURSE.

The numerals opposite the subjects indicate the number of hours per week.

FRESHMAN CLASS.

First Term.	*Second Term.*	*Third Term.*
3. English.	3. English.	3. English.
2. History.	2. History.	3. History.
4. Latin.	4. Latin.	3. Latin.
5. Mathematics.	5. Mathematics.	5. Mathematics.
3. Drawing.	3. Drawing.	2. Agriculture.
6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y.	3. Drawing.
3. Military Drill.	3. Military Drill.	6. Mechanic Art Lab'y.
		3. Military Drill.

SOPHOMORE CLASS.

First Term.	*Second Term.*	*Third Term.*
5. Latin.	5. Latin.	5. Latin.
3. History.	3. History.	3. Botany or Elementary Mechanics.
5. Mathematics.	5. Mathematics.	5. Matnematics.
3. General Chemistry.	3. General Chemistry.	3. General Chemistry.
3. Drawing.	3. Drawing.	3. Drawing.
6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y. or 4. Botanical Lab'y.
2. Chemical Lab'y.	2. Chemical Lab'y.	2. Chemical Lab'y.
3. Military Drill.	3. Military Drill.	3. Military Drill.

JUNIOR CLASS.

First Term.	*Second Term.*	*Third Term.*
3. English.	3. English.	3. English.
3. Physics.	3. Physics.	3. Physics.
3. Mathematics.	3. Mathematics.	3. Mathematics.
3. French.	3. French.	3. French.
3. German.	3. German.	3. German.
3. Latin.	3. Latin.	3. Latin.
1. Military Tactics.	1. Military Tactics.	1. Military Tactics.
6. Lab'y. Work (a).	6. Lab'y. Work (a).	6. Lab'y. Work (a).
3. Military Drill.	3. Military Drill.	3. Military Drill.

SENIOR CLASS.

First Term.	*Second Term.*	*Third Term.*
2. English.	2. Political Economy.	2. Political Economy.
2. Mental Science.	2. Mental Science.	2. Mental Science.
2. Physics.	2. Physics.	2. Astronomy.
2. Geology.	2. Geology.	2. Geology.
3. French.	3. French.	3. French.
3. German.	3. German.	3. German.
2. Latin.	2. Latin.	2. Latin.
1. Military Science.	1. Military Science.	1. Military Science.
6. Lab'y. Work (a).	6. Lab'y. Work (a).	6. Lab'y. Work (a).

(a) The student may elect the laboratory of any department for which he may be qualified.

VII. COURSE IN PHARMACY.

The numerals opposite the subjects indicate the number of hours per week.

FRESHMAN CLASS.

First Term.	*Second Term.*	*Third Term.*
3. English.	3. English.	3. English.
2. History.	2. History.	3. History.
4. Latin.	4. Latin.	3. Latin.
5. Mathematics.	5. Mathematics.	5. Mathematics.

3. Drawing.	3. Drawing.	3. Drawing.
6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y.	2. Agriculture.
3. Military Drill.	3. Military Drill.	6. Mechanic Art Lab'y.
		3. Military Drill.

SOPHOMORE CLASS.

First Term.	*Second Term.*	*Third Term.*
5. Latin.	5. Latin.	5. Latin.
3. History.	3. History.	3. Botany.
5. Mathematics.	5. Mathematics.	5. Mathematics.
3. General Chemistry.	3. General Chemistry.	3. General Chemistry.
2. Physiology.	2. Physiology.	2. Physiology.
3. Drawing.	3. Drawing.	3. Drawing.
6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y.	4. Botanical Lab'y.
2. Chemical Lab'y.	2. Chemical Lab'y.	2. Chemical Lab'y.
3. Military Drill.	3. Military Drill.	3. Military Drill.

JUNIOR CLASS.

First Term.	*Second Term.*	*Third Term.*
3. Physics.	3. Physics.	3. Physics.
6. Chemical Lab'y.	6. Chemical Lab'y.	6. Chemical Lab'y.
4. Botany.	4. Botany.	4. Botany.
3. English (a).	3. English (a).	3. English (a).
3. Pharmacy.	3. Pharmacy.	3. Pharmacy.
4. Pharmacognosy.	4. Pharmacognosy.	4. Pharmacognosy.
1. Military Tactics.	1. Military Tactics.	1. Military Tactics.
3. Military Drill.	3. Military Drill.	3. Military Drill.

SENIOR CLASS.

First Term.	*Second Term.*	*Third Term.*
3. Bacteriology.	3. Bacteriology.	3. Materia Medica.
3. Bacteriology Lab'y.	3. Bacteriology Lab'y.	3. Urinalysis.
6. Chemical Lab'y.	6. Chemical Lab'y.	7. Toxicology.
2. Organic Chemistry.	2. Organic Chemistry.	2. Organic Chemistry.
5. Pharmacy.	5. Pharmacy.	5. Pharmacy.
15. Pharmaceutical Lab'y.	15. Pharmaceutical Lab'y.	15. Pharmaceutical Lab'y.
4. Pharmacognosy.	4. Pharmacognosy.	4. Pharmacognosy.
1. Military Science.	1. Military Science.	1. Military Science.

(a) French or German may be substituted.

VIII. TWO-YEAR COURSE IN MECHANIC ARTS.

FIRST YEAR.

First Term.	*Second Term.*	*Third Term.*
5. English.	5. English.	5. English.
2. History.	2. History.	3. History.
5. Mathematics.	5. Mathematics.	5. Mathematics.
3. Elementary Physics.	3. Elementary Physics.	2. Agriculture.
3. Drawing.	3. Drawing.	3. Drawing.
6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y.
3. Military Drill.	3. Military Drill.	3. Military Drill.

SECOND YEAR.

First Term.	*Second Term.*	*Third Term.*
3. English.	3. English.	3. English.
5. Mathematics .	5. Mathematics .	5. Mathematics .
3. Physics.	3. Physics.	3. Physics.
3. Drawing.	3. Drawing.	3. Drawing.
12. Mechanic Art Lab'y.	12. Mechanic Art Lab'y	12. Mechanic Art Lab'y
3. Military Drill.	3. Military Drill.	3. Military Drill.

IX. TWO-YEAR COURSE IN AGRICULTURE.

FIRST YEAR.

First Term.	*Second Term.*	*Third Term.*
3. English.	3. English.	3. English.
2. Physiology.	2. Physiology.	2. Physiology.
5. Mathematics.	5. Mathematics.	5. Mathematics.
3. Elementary Physics.	3. Elementary Physics.	2. Agriculture.
3. Drawing.	3. Drawing.	3. Botany.
6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y.	3. Drawing.
4. Practical Agriculture.	4. Practical Agricult'r.	4. Botanical Lab'y.
3. Clinical Lab'y.	3. Clinical Lab'y.	2. Horticulture.
3. Military Drill.	3. Military Drill.	4. Practical Agricult'r.
		3. Clinical Lab'y.
		3. Military Drill.

SECOND YEAR.

First Term.	*Second Term.*	*Third Term.*
3. English.	3. English.	3. English.
4. Agriculture.	4. Agriculture.	4. Agriculture.
4. Practical Agriculture.	4. Practical Agricult'r.	4. Practical Agricult'r.
3. Chemistry.	3. Chemistry.	3. Chemistry.
2. Chemical Lab'y.	2. Chemical Lab'y.	2. Chemical Lab'y.
2. Veterinary Science.	2. Veterinary Science.	2. Veterinary Science.
3. Clinical Lab'y.	3. Clinical Lab'y.	3. Clinical Lab'y.
2. Horticulture.	2. Horticulture.	4. Horticulture.
3. Military Drill.	3. Military Drill.	3. Military Drill.

X. TWO-YEAR COURSE IN PHARMACY.

FIRST YEAR.

First Term.	*Second Term.*	*Third Term.*
3. General Chemistry.	3. General Chemistry.	3. General Chemistry.
2. Chemical Lab'y.	2. Chemical Lab'y.	2. Chemical Lab'y.
3. English.	3. English.	3. Botany.
2. Physiology.	2. Physiology.	2. Physiology.
3. Pharmacy.	3. Pharmacy.	3. Pharmacy.
4. Pharmacognosy.	4. Pharmacognosy.	4. Pharmacognosy.
6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y.	4. Botanical Lab'y.
3. Military Drill.	3. Military Drill.	3. Military Drill.

SECOND YEAR.

First Term.	*Second Term.*	*Third Term.*
5. Pharmacy.	5. Pharmacy.	5. Pharmacy.
3. Pharmacognosy.	3. Pharmacognosy.	3. Pharmacognosy.
15. Pharmaceutical Lab'y.	15. Pharmaceutical Lab'y.	15. Pharmaceutical Lab'y.
2. Organic Chemistry.	2. Organic Chemistry.	2. Organic Chemistry.
6. Chemical Lab'y.	6. Chemical Lab'y.	6. Toxicology.
6. Bacteriology.	6. Bacteriology.	3. Materia Medica.
4. Botany.	4. Botany.	4. Botany.
3. Military Drill.	3. Military Drill.	3. Military Drill.

XI. THREE-YEAR COURSE IN PHARMACY.

In the first and second years the same studies are prescribed as in Course X.

THIRD YEAR.

First Term.	*Second Term.*	*Third Term.*
20. Pharmaceutical Chemistry and Lab'y.	20. Pharmaceutical Chemistry and Lab'y.	20. Pharmaceutical Chemistry and Lab'y.
15. Chemistry and Chemical Lab'y.	15. Chemistry and Chemical Lab'y.	15. Chemistry and Chemical Lab'y.
3. Bacteriological Lab'y.	3. Bacteriological Lab'y.	3. Bacteriological Lab'y.

SCHEDULE OF EXERCISES.

HOURS	MONDAY.	TUESDAY.	WEDNESDAY.	THURSDAY.	FRIDAY.	SATURDAY.
I.	4. Algebra. 3. Latin. 2. Pharmacy. 2. Mech. Engineer'g. 2. Horticult. Lab'y. 1 and 2. Drawing.	4. Geometry. 3. Agriculture. 3. Latin. 2. Mineralogy. 2. German. 2. Botany.	4. Algebra. 3. Latin. 2. Pharmacy. 2. Vet. Science. 2. Mech. Engineer'g. 1. Botany. 1 and 2. Drawing.	4. Geometry. 3. Latin. 2. German. 2. Botany. 2. Mech. Engineer'g. 2. Mineralogy. 1 and 2. Drawing.	4. Algebra. 3. Latin. 2. Pharmacy. 2. Veterinary Sci. 1 and 2. Drawing. 1. Elec. Engineer'g. 1. German.	Exercises in Elocution.
12-1.	1. Elec. Designing. 1. Agriculture. 1. French. 1. Pharmacy. 1. Eng. Chem. and Metallurgy.	1. Pharmacy. 1. Mech. Engineer'g.	2. German. 2. Anal. Chemistry. 1. Pharmacy. 1. Eng. Chem. and Metallurgy. 1. Elec. Designing.	1. Pharmacy. 1. Mech. Engineer'g.	2. Military Tactics. 4. Elec. Designing. 1. Pharmacy.	Physical Lab'y. Veterinary Clinics. Field Civil and Mining Engineering.
P. M. 2-4.	4. Mechanic Arts. 3. Field Work. Agr. 3. Botanical Lab. (3) 1 and 2. Lab. Chem. 1 and 2. Field Work, Engineering. 1 and 2. Mach. Work. 1 and 2. Elec. Lab'y. Work. Physical Lab'y. 1. Mech. Lab'y.	3. Mechanic Arts. 3. Botanical Lab. (3). 2. Mineralogical Lab. 2. Agriculture (1, 2). Military Drill (*) Elec. Lab'y. Work. 1 and 2. History.	4. Mechanic Arts. 3. Field Work, Agri. 3. Botanical Lab. (3.) 1 and 2. Lab. Chem. 1 and 2. Field Work Engineering. 1 and 2. Mach. Work. Exercises in Eloc't'n. Elec. Lab'y. Work. Physical Lab'y. 1. Mech. Lab'y.	3. Mechanic Arts. 3. Botanical Lab. (3.) 2. Mineralogical Lab. Military Drill (*) 1. Elec. Lab'y. Work. 1 and 2. History. 1. Agriculture (1, 2.) 2. Horticulture Lab'y.	4. Mechanic Arts. 3. Horticulture (3.) 2. French. 1 and 2. Lab. Chem. 1 and 2. Field Work Engineering. 1 and 2. Mach. Work. Exercises in Eloc't'n. Elec. Lab'y. Work. Physical Lab'y. 1. Mech. Lab'y.	

Chapel services daily at 7:45 a. m. *From 4:30 to 5:30 p. m. (m) Mining Engineering.

Numbers prefixed denote classes—1 denotes senior; 2, junior, etc. Numbers affixed—(1), (2), (3), denote terms.

SCHEDULE OF EXERCISES.

HOURS.	MONDAY.	TUESDAY.	WEDNESDAY.	THURSDAY.	FRIDAY.	SATURDAY.
I. 8-9.	4. Algebra. 3. Latin. 2. Pharmacy. 2. Mech. Engineer'g. 2. Horticult. Lab'y. 1 and 2. Drawing. 1. Elec. Engineer'g. 1. Botany. 1. German. 1. Bacteriology.	4. Geometry. 3. Agriculture. 3. Latin. 2. Mineralogy. 2. German. 2. Botany. 1 and 2. Drawing. 1. Elec. Engineer'g.	4. Algebra. 3. Latin. 2. Pharmacy. 2. Vet. Science. 2. Mech. Engineer'g. 1. Botany. 1 and 2. Drawing. 1. Elec. Engineer'g. 1. German.	4. Geometry. 3. Latin. 2. German. 2. Botany. 2. Mech. Engineer'g. 2. Mineralogy. 1 and 2. Drawing. 1. Elec. Engineer'g.	4. Algebra. 3. Latin. 2. Pharmacy. 2. Veterinary Sci. 1 and 2. Drawing. 1. Elec. Engineer'g. 1. German.	Exercises in Elocution.
II. 9-10.	4. English. 3. Chemistry. 2. Civ. Engineer'g. 2. Elec. Engineer'g. 2. Mining Engineer'g. 2. Latin. 2. Horticulture (2-3.) 1. Calculus. 1. Botany (Lab'y.) 1. Bacteriology.	4. History. 3. Physiology. 2. Civil Engineer'g. 2. Elec. Engineer'g. 2. Mining Engineer'g. 2. Botanical Lab'y. 1. Chemistry. 1. French. 1. Agriculture.	4. English. 3. Chemistry. 2. Civil Engineer'g. 2. Elec. Engineer'g. 2. Mining Engineer'g 2. Latin. 2. Horticulture (2-3) 1. Calculus. 1. Pharmacognosy. 1. Botany.	4. History. 3. Agriculture. 2. Civil Engineer'g. 2. Botany. 2. Elec. Engineer'g. 2. Mining Engineer'g. 1. Chemistry. 1. French. 1. Veterinary Sci.	4. English. 3. Chemistry. 2. Civil Engineer'g. 2. Latin. 2. Mech. Drawing. 2. Mining Engineer'g. 2. Horticulture (2-3.) 1. Calculus. 1. Veterinary Sci.	Military Drill.
III. 10-11.	3. English. 2. Physics. 1. Civil Engineer'g. 1. Botany (Lab'y). 1. Latin. 1. Mech. Engineer'g. 1. Bacteriology. 1. Mining Engineer'g. 4. Agriculture (3.)	1. Mental Science. 4. English. 3. Botany (Lab. 3.) 3. History (1, 2.) 2. French. 2. Mech. Drawing. 2. Botany. 1. Elec. Engineer'g. (m.) 1. Machine Design. 1. Pharmacognosy. 1. Civil Engineer'g. 1. Mech. Engineer'g.	3. English. 2. Physics. 1. Latin. 1. Civil Engineer'g. 1. Mech. Engineer'g. 1. Botany (Lab'y.) 1. Mining Engineer'g. 4. Agriculture (3.)	1. Mental Science. 4. English. 3. History (1, 2.) 3. Botany (3.) 2. French. 2. Botany. 1. Civil Engineer'g. 1. Elec. Engineer'g. (m.) 1. Mech. Engineer'g. 1. Machine Design. 1. Pharmacognosy. 2. Practical Mach'y.	3. English. 2. Physics. 1. Civil Engineer'g. 1. Pharmacognosy. 4. History (3.) 1. Mech. Engineer'g.	Mechanic Arts. Chemical Lab'y. Electrical Lab'y. Physical Lab'y. Veterinary Clinics. Field Civil and Mining Engineering.
IV. 11-12.	4. Agriculture (3.) 4. Physics (1-2.) 4. Mechanic Arts. 4. Latin (1, 2.) 3. Drawing. 2. Mathematics. 2. Chemistry. 2. Pharmacognosy. 1. English (1, 2.) 1. Pol. Econ. (2, 3.)	4. Latin. 3. Drawing. 2. Horticulture. 2. Mathematics. 2. Chemistry (Org.) 2. Pharmacognosy. 1. Physics.	4. Physics (1, 2.) 4. Latin (3.) 4. Mechanic Arts. [illegible] 3. Botany (3.) 2. Mathematics. 2. Chemistry. 2. Pharmacognosy. 1. English (1, 2.) 1. Pol. Econ. (2, 3.) 4. Agriculture (3.)	4. Latin. 3. Physiology. 2. Mathematics. 2. Chemistry (Org.) 1. Physics.	4. Physics (1, 2.) 4. Mechanic Arts. 4. Latin (1, 2.) 2. Drawing. 2. Mathematics. 2. Chemistry. 2. Pharmacognosy. 1. Military Science.	1. Pharmaceutical Lab'y. 3. Mechanic Arts. Chemical Lab'y. Electrical Lab'y. Physical Lab'y. Veterinary Clinics. Field Civil and Mining Engineering.
V. 12-1.	4. Drawing. 4. Mechanic Arts. 3. Mathematics. 2. English. 1. Elec. Designing. 1. Agriculture. 1. French. 1. Pharmacy. 1. Eng. Chem. and Metallurgy.	3. Mathematics. 2. English. 1. Geology. 1. Pharmacy. 1. Mech. Engineer'g.	4. Drawing. 4. Mechanic Arts. 3. Mathematics. 2. German. 2. Anal. Chemistry. 1. Pharmacy. 1. Eng. Chem. and Metallurgy. 1. Elec. Designing.	3. Mathematics. 2. English. 1. Geology. 1. Pharmacy. 1. Mech. Engineer'g.	4. Drawing. 4. Mechanic Arts. 3. Mathematics. 2. Military Tactics. 4. Elec. Designing. 1. Pharmacy.	3. Mechanic Arts. Chemical Lab'y. Electrical Lab'y. Physical Lab'y. Veterinary Clinics. Field Civil and Mining Engineering.
P. M. 2-4.	4. Mechanic Arts. 3. Field Work. Agr. 3. Botanical Lab. (3) 1 and 2. Lab. Chem. 1 and 2. Field Work, Engineering. 1 and 2. Mach. Work. 1 and 2. Elec. Lab'y. Work. Physical Lab'y. 1. Mech. Lab'y.	3. Mechanic Arts. 3. Botanical Lab. (3) 2. Mineralogical Lab. 2. Agriculture (1, 2). Military Drill (*) Elec. Lab'y. Work. 1 and 2. History.	4. Mechanic Arts. 3. Field Work, Agri. 3. Botanical Lab. (3.) 1 and 2. Lab. Chem. 1 and 2. Field Work Engineering. 1 and 2. Mach. Work. Exercises in Eloc't'n. Elec. Lab'y. Work. Physical Lab'y. 1. Mech. Lab'y.	3. Mechanic Arts. 3. Botanical Lab. (3.) 2. Mineralogical Lab. Military Drill (*) 1. Elec. Lab'y. Work. 1 and 2. History. 1. Agriculture (1, 2.) 2. Horticulture Lab'y.	4. Mechanic Arts. 3. Horticulture (3.) 2. French. 1 and 2. Lab. Chem. 1 and 2. Field Work Engineering. 1 and 2. Mach. Work. Exercises in Eloc't'n. Elec. Lab'y. Work. Physical Lab'y. 1. Mech. Lab'y.	

Chapel services daily at 7:45 a. m. *From 4:30 to 5:30 p. m. (m) Mining Engineering.

Numbers prefixed denote classes—1 denotes senior; 2, junior, etc. Numbers affixed—(1), (2), (3), denote terms.

DEPARTMENTS OF INSTRUCTION

ENGLISH AND POLITICAL ECONOMY.

PRESIDENT THACH.

PROFESSOR WIATT.

INSTRUCTOR WEBB.

INSTRUCTOR RUTLAND.

OBJECTS AND METHODS.

In this department the students pursue a systematic course in the English language and literature.

Language is the avenue of approach to all knowledge; the interpretation of words is the fundamental process in education of whatsoever kind. A full course in English is, therefore, considered especially important in the technical courses of study that do not include the ancient classics. Accordingly, the course in English is continued throughout the four years of the college curriculum, three hours a week, and is made obligatory upon all students, with the exception of those pursuing the first two years of the course in Latin. In this extended drill in the grammar and literature of the English language, the endeavor is made to afford a training somewhat equivalent to the ordinary course in the classical languages.

In view of the ill preparation in languages, especially in their mother tongue, exhibited by many of the candidates for admission to the freshman class, it is deemed advisable, for the sake of honest work, to devote a portion of the first year to grounding such students in the principles of grammar.

Especial attention is given to the study of the writings themselves of leading American and British authors, since direct contact with literature is considered more profitable that information merely *about* literature.

All students before classed as regular in any course leading to a degree must conform to all the requirements in English for admission as set forth on page 40.

For requirements as to thesis and as to proficiency in English for certificates and degrees, see pages 48 and 109.

Declamations and themes (or orations) are required of *all regular* students. For details see below.

COURSES OF STUDY.

Freshman Class—Five hours a week; study of grammar, the principles of special and general composition, with frequent brief papers illustrating the laws studied; study of American authors; Irving, Hawthorne, Holmes, Poe, Bryant, Longfellow.

Swinton's English Grammar, Lockwood & Emerson's Rhetoric, Kellogg & Reed's English Language.

Sophomore Class—Three hours a week; study of style, analysis of selections of prose and poetry; frequent essays on historic and literary themes.

Rhetoric, Genung's Rhetorical Analysis, Syle's From Milton to Tennyson.

Junior Class—Three hours a week; lectures on the history of English literature, critical study of English classics, essays.

Pancoast's History of English Literature; Pancoast's Standard English Poems, Macaulay, Carlyle, DeQuincey, etc.

Senior Class—Two hours a week, first term. Principles of Criticism, Shakespeare's Julius Cæsar, Hamlet, etc. Dowden's Shakespeare, etc.

THEMES AND ORATIONS.

Theory without practice is as fruitless in the study of English as in any other department of study. Practical work is indispensable to the successful teaching of English.

Besides numerous brief papers illustrative of the subject matter of the text-books, set themes or orations are *required of all students;* For the freshman class *ten* themes a year; *ten* for the sophomore; for the senior and junior classes, *three* orations each.

DECLAMATION.

The old practice of committing pieces to memory for "speaking" is cultivated as a means, both of training in the art of thinking on the feet, and of storing the mind with the diction of finished specimens of English style.

The sophomore class is heard weekly throughout the year in sections of ten, once for an hour and a half in rehearsal, afterwards in the study-hall before the body of students.

The senior and junior classes also deliver their orations in public.

PHILOSOPHY AND POLITICAL ECONOMY.

The senior class pursue the study of intellectual science, twice a week, through the year; and political economy twice a week, during the last two terms. The instruction in this department is by lectures in combination with text-books.

Intellectual Science—Pschology defined. Value in relation to moral culture, education and Natural Sciences. The relation of the soul to matter. The arguments of the Materialist. Counter arguments. The faculties of the Soul. The nature of Consciousness. Sense Perception. Fancy. Imagination. Nature of Conceptions. Language. Judgment. Reasoning. Deduction. Induction, etc. *Porter's Intellectual Science.*

Political Economy—Value; production of wealth; land; labor; capital; division of labor; distribution of wealth; wages; trades-union; tariff; education, etc. *Lectures by Professor. Ely's Outlines of Economics.*

A Post-graduate course has also been established in English. The following courses have been given:

(1) *Shakespeare*—Hamlet, Othello, Macbeth, Merchant of Venice, As You Like It, Henry IV., Part I., Richard III., King John.

(2) *Dryden—Poetical Works* (Christie); *Essay on Dramatic Poesy* (Thomas Arnold); *Essay on Satire, etc.*, (Yonge); Saintsbury's *Life of Dryden.*

Pope—Poetical Works (Ward); *Satires* (Pattison); Stephen's *Life of Pope;* Gosse's *From Shakespeare to Pope* and 18*th Century Literature.*

(3) *English Literature of the Eighteenth Century;* Addison, Pope, Gray, Goldsmith, Burns, Cowper, Burke.

(4) *American Literature*: Longfellow, Lowell, Poe.

(5) *The Rise and Development of the English Essay*: Bacon, Addison, Steele, Swift, Johnson, Goldsmith, Macaulay, DeQuincey, Lamb, Carlyle.

(6) *Milton—Poetical Works* (Masson); Life, Pattison, Brooke.

MATHEMATICS.

PROFESSOR SMITH.

ACTING ASSOCIATE PROFESSOR HALEY.

INSTRUCTOR PATRICK.

ASSISTANT HILL.

The subjects taught in the different classes in this department are as follows:

FRESHMAN CLASS. Algebra through quadratic equations and series, geometry (seven books Wentworth), original solutions of exercises.

SOPHOMORE CLASS. Spherical geometry, plane and spherical trigonometry, triangulation, surveying, mensuration.

JUNIOR CLASS. Analytic geometry, descriptive geometry, differential calculus.

SENIOR CLASS. Differential and integral calculus.

Two objects are sought to be obtained: First, mental discipline; second, a thorough knowledge of the principles of pure mathematics and their practical applications.

Theoretical and practical instruction is given to the sophomore class in land surveying, mapping, plotting and computing areas, etc., also in the theory, adjustment and use of instruments, and triangulation.

The class, in sections of six or eight, devote three afternoons a week during the second and third terms to field practice.

The completion of this course, common to all students, lays the foundation for the pure and applied mathematics of the mechanical and engineering courses. Analytic geometry, descriptive geometry, and calculus are pursued in the engineering courses. Especial attention is given to their practical applications.

During the entire course, instruction in text-books is supplemented by lectures. Solutions of original practical problems are required of the student, to make him familiar with the application of principles and formulas.

TEXT-BOOKS.

Wentworth's Algebra, Wentworth's Geometry, Wentworth's Trigonemetry, Wentworth's Surveying, Wentworth's Analytic Geometry, Faunce's Descriptive Geometry, Taylor's Calculus, Graham's Calculus for Engineers, Johnson's Differential Equations, Osborne's Problems, Peck's Determinants.

CIVIL ENGINEERING AND DRAWING.

PROFESSOR LANE.

ASSISTANT MATSON.

The special studies in this department begin in the junior class, and require a good knowledge of algebra, geometry, trigonometry, and analytical mechanics. They are as follows:

Junior Class—Simple, compound, reversed and parabolical curves, turnouts and crossings, leveling, gradients, setting slope stakes, etc.

Special attention is paid in this class to the location, construction, drainage and maintenance of country roads; and the various pavements and foundations for the same.

Senior Class—Classification, appearances, defects, seasoning, durability and preservation of timber; classification and description of natural building stones; bricks and concretes; cast and wrought iron, steel and other metals; limes, cements, mortars and their manufacture; paints and other preservatives; classification of strains and a general mathematical discussion of same; joints and fastenings; solid and open built beams; classification, construction and mechanics of masonry; foundations on land and in water; bridges and roofs of different kinds, their construction and strains determined mathematically and graphically; common reads, their coverings; location and construction of railroads; navigable, irrigation and drainage canals; rivers and sea-coast improvements.

Theory and practice are combined in both classes.

TEXT-BOOKS.

Junior Class—Henck's Field Book for Railway Engineers, and Byrne's Highway Construction.

Senior Class—Wheeler's Civil Engineering and Von Ott's Graphic Statics.

DRAWING.

All of the students of the freshman and sophomore classes are required to take drawing; but only the students in civil engineering in the junior and senior classes.

The freshman class is taught linear drawing. The sophomore class is instructed in the principles of orthographic and isometric projections, shades, shadows, perspective and tinting. In the junior class the instruction embraces a more extended course in orthographic and isometric drawing, perspective, shades and tinting; also sketches of tools and machines, plans and elevations and cross-sections of buildings, and blue prints. The senior class makes topographical drawings, and drawings of machines, roofs, bridges etc., to different scales, and blue prints. Plans, profiles and sections of railroad surveys complete the instruction in this department.

Freshman Class.—Kitchener's Geometrical Note Book, Davidson's Linear Drawing, and Davidson's Model Drawing.

Sophomore Class.—Davidson's Projections, Davidson's Practical Perspective, Keuffel & Esser's Alphabet.

Junior Class.—Davidson's Building Construction, Davidson's Drawing for Mechanics and Engineers, Keuffel & Esser's Alphabet.

Senior Class.—French, English and American plates belonging to the College, Keuffel & Esser's Alphabet.

HISTORY AND LATIN.

PROFESSOR PETRIE.

INSTRUCTOR DAVIS.

HISTORY.

In this department the aim is not so much to memorize facts as to understand them. Strong emphasis is laid on the fact that history is not a succession of isolated facts, but a progressive whole, each event being at once the cause and the effect of other events. The students are taught to investigate the growth of ideas and institutions, the rise and progress of great historical movements, and the reciprocal influences of men and circumstances. Frequent use is made of diagrams, photographs, charts and maps, with which the department is well equipped. Instruction is given by text-books, lectures and class discussion, but a constant effort is made to stimulate to wider reading and research in the library.

In the freshman class, the subjects studied are the United States, Alabama, and England. The first term (two hours per week) is devoted to the history and government of the United States; the second term (two hours per week) to Alabama, and the third term (three hours per week) to the history of England.

In the sophomore class (three hours per week until March) the subject studied is general European history.

HISTORICAL LABORATORY.

In the junior and senior classes opportunity for special work in United States history is given those students of the General Course who elect it as laboratory work, and to any others who are properly qualified. The chief object kept in view is training in historical research and in the formation of independent but careful opinions based on the original sources of information, as well as on the standard authorities. Emphasis is laid on the importance of securing proper material for investigation and every incentive is given to the collection and use of new documents, papers and letters illustrative of Southern, and especially Alabama history.

The method of work is as follows: Informal lectures are given on important and suggestive points, as: The cause of the Revolution; the Constitutional Convention; the War of 1812; the Missouri Compromise; the Monroe Doctrine; Texas and Mexico; the Compromise of 1850; the Kansas Struggle; the Dred Scott Decision; Secession. After each lecture topics connected with it are assigned to the students with an outline of the points to be investigated They report their results to the class and a discussion follows. The final results are collected by each student according to his own judgment in his note-book, which is then passed in to the professor for correction and suggestion.

Graduate students are expected to take part in the junior and senior discussions and in addition will meet with the professor for conference in reference to their work. Those who take history as their major subject are expected to devote a large part of their time to original research upon some topic upon which they can consult the original sources of information. They are also required to pursue a prescribed course of reading as indicated below:

TEXT-BOOKS.

Freshman Class.—Hart's Formation of the Union; Wilson's Division and Reunion; Brown's History of Alabama; Montgomery's English History.

Sophomore Class.—Myers's General History.

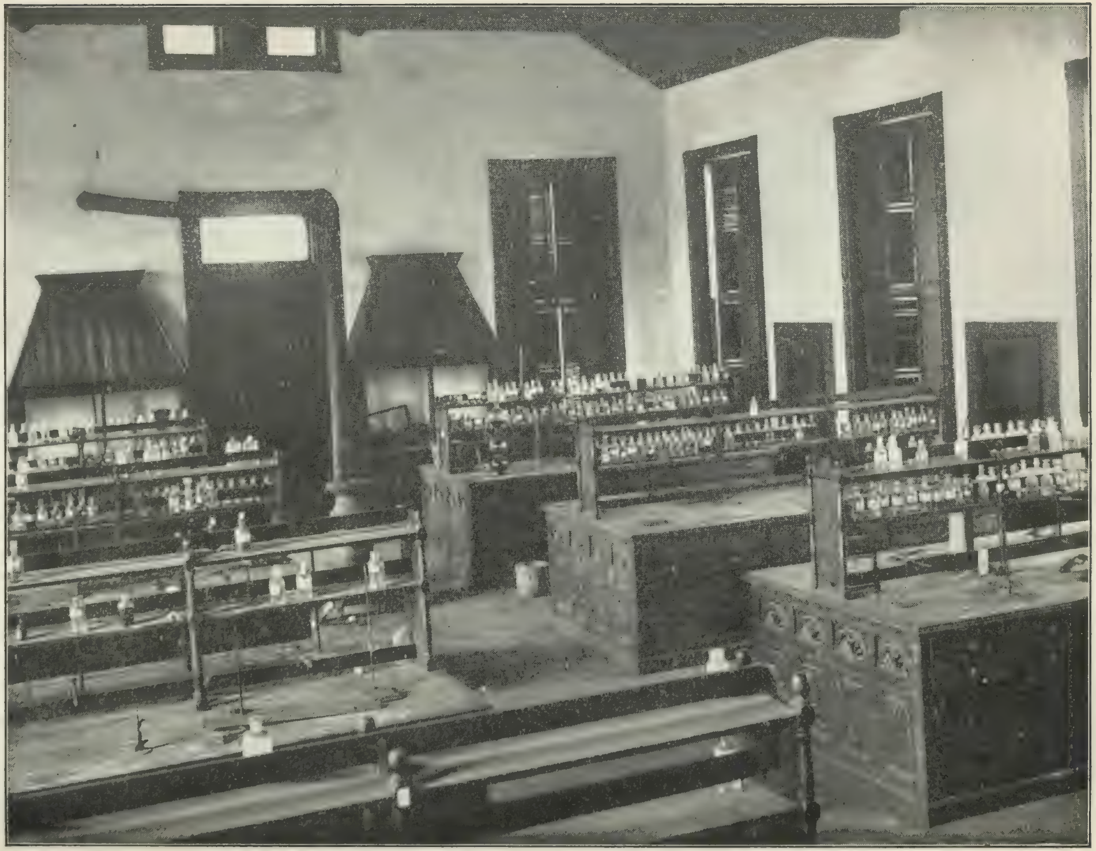
Junior and Senior Classes.—Moore's American Congress.

Graduate Course.—Wilson's History of the American People, Fiske's Critical Period, Burgess's Middle Period, Burgess's Reconstruction and the Constitution.

LATIN.

The objects kept in view in this department are: An accurate knowledge of the forms and syntax; a familiarity with Latin words, their etymology and their English derivatives; an appreciation of Latin literature and an intelligent conception of Roman history and civilization both in themselves and in their effect on the modern world.

A systematic course of instruction is given in the forms and syntax. These are taught both deductively from a grammar and inductively from the text read. Translation is constantly practiced, sometimes at sight, sometimes after being assigned for preparation. English passages based on a familiar author or illustrative of special constructions are put in Latin, both orally and in writing. Great emphasis is laid on the etymology of the words in the text read.



CHEMICAL LABORATORY (INTERIOR.)

In connection with every author studied in class a course of reading in English is prescribed descriptive of his life, work and times. The historical setting and the literary value of his writings are carefully discussed and frequent comparisons are made with modern authors.

In the freshman and sophomore classes the study of the language is the chief point. In the higher classes a broader view is taken. The junior class makes a special study of Roman history and Roman historians. The senior class studies Roman poetry and Roman life.

TEXT-BOOKS.

Freshman Class.—Allen & Greenough's Grammar, Exercises, Nepos, Sallust or equivalent, Cicero.

Sophomore Class.—Cicero, Allen & Greenough's Grammar, Bennett's Latin Composition, Guerber's Mythology.

Junior Class.—Livy, Tacitus, Allen & Greenough's Grammar, Exercises, Botsford's History of Rome.

Senior Class.—Horace, Plautus, Preston & Dodge's Private Life of Romans, Latin Literature, Allen & Greenough's Latin Grammar.

CHEMISTRY.

PROFESSOR ROSS.

ASSISTANT PROFESSOR HARE.

INSTRUCTOR BRAGG.

ASSISTANT EWING.

Instruction in this department embraces:

1. A course of lectures in general chemistry.
2. A course of lectures in industrial and engineering chemistry.
3. A course of lectures in organic chemistry.
4. A course of lectures in metallurgy.
5. A course of lectures in agricultural chemistry.
6. Systematic laboratory work in connection with each course of lectures, for the practice of chemical analysis and chemical research.

1. Course in general chemistry: This consists of a series of lectures (three per week) extending throughout the entire session, and includes a discussion of the fundamental principles of chemical philosophy in connection with the history, preparation, properties and compounds of the metallic and non-metallic elements, with the main facts and principles of organic chemistry. In this course the more common applications of chemistry to the arts and manufactures are discussed. The apparatus used for experimental illustration is extensive, containing the newest and approved improvements necessary for presenting the subject in the most attractive and instructive form.

REFERENCE BOOKS.

Roscoe & Schorlemmer, Fownes, Frankland, Remsen, Cooke's Chemical Philosophy, Chemical Journals.

2. Lectures in industrial chemistry (three per week) extend throughout the session, and include a discussion in detail of the processes and chemical principles involved in the most important applications of chemistry in the arts and manufactures to the preparation of materials for food and drink, for clothing, shelter, illumination, cleansing, purifying, writing, printing, etc.

These lectures are amply illustrated by means of suitable specimens of raw materials and manufactured products, together with models and diagrams.

A course of lectures (two hours per week) on engineering chemistry is given during the last half of the senior year, especial attention being given to the study of the construction and equipment of chemical plants devoted to the manufacture of the more important chemical products. The study of textile chemistry will also be included in this series of lectures.

Excursions to various chemical and metallurgical plants during the course of the year will aid in familiarizing the student with the practical details of the operation of the leading industries.

REFERENCE BOOKS.

Thorp's Industrial Chemistry, Wagner's Chemical Technology; Muspratt's Chemistry as applied to Arts and Manufacturing, Ure's Dictionary, Watt's Dictionary, Richardson and Watt's Chemical Technology, Sadtler's Industrial Organic Chemistry.

3. Course in organic chemistry: Instruction in this subject embraces lectures and recitations (two hours per week) throughout the junior year, upon the leading facts and principles of the chemistry of the carbon compounds, and includes a study of the methods of preparation of the more important compounds, their properties, and their structural and stereo-chemical relations.

TEXT AND REFERENCE BOOKS.

Remsen's Organic Chemistry, Richter's Organic Chemistry, Gatterman's Practical Methods of Organic Chemistry.

4. Course in metallurgy: This consists of lectures and recitations (two per week, during the first half of the senior year) upon the more important metals, such as iron and steel, copper, lead, tin, silver, gold, mercury, zinc, etc. It includes a discussion of the physical and chemical properties of the metals and their alloys, the ores and their treatment, and the processes by which the metals are obtained from the ores, with chemical reactions involved.

5. Course in agricultural chemistry: This consists of lectures on chemistry in its application to agriculture (two per week, during second and third terms), and includes a thorough discussion of the origin, composition and classification of soils, the composition and growth of plants, the sources of plant food and how obtained, the improvement of soils, the manufacture and use of fertilizers, the chemical principles involved in the rotation of crops, the feeding of live stock, and the various operations carried on by the intelligent and successful agriculturist.

REFERENCE BOOKS.

Johnson's How Crops Grow, and How Crops Feed, Lupton's Elementary Principles of Scientific Agriculture, Johnson and Cameron's Elements of Agricultural Chemistry, Storer's Agriculture in Relation to Chemistry, scientific journals, reports of the United States Department of Agriculture, and the bulletins and reports of the various home and foreign agricultural departments and stations.

6. The course of systematic laboratory work: This course of practical work in the laboratory is carried on in connection with each course of lectures. In the junior year the work em-

braces the practical operations of chemical synthesis and analysis, and includes the preparation of non-metallic elements and their most important compounds, in addition to a systematic study of the metals and their compounds, their separation and identification. In the senior year students pursue work in quantitative analysis, including analysis of fertilizers, soils, coals, ores, iron and steel, sugars and sugar products, feed stuffs, mineral waters, fluxes, slags, cinders, furnace gases, etc., the courses of work being varied somewhat to suit the individual object of the student.

In the course of Pharmacy, instruction in Toxicology and Toxical Analysis is given during the last term of the senior year.

All students during the sophomore year are required to take two hours per week of practical laboratory work, instruction being given in the simplest methods of chemical manipulation.

The laboratories, which are open from 9 A. M. to 5 P. M., during six days in the week, are amply supplied with everything necessary for instruction in chemical manipulation in qualitative and quantitative analysis, and in the methods of prosecuting chemical research. Unusual facilities are offered to students who wish to devote their time to the special study of practical chemistry.

Each student on entering the chemical laboratory is furnished with a work table, a set of re-agent bottles and the common re-agents and apparatus used in qualitative and quantitative analysis.

At the close of the session he will be credited with such articles as may be returned in good order; the value of those which have been injured or destroyed, will be deducted from his contingent fee.

In addition to the laboratory work above described it is designed to give a short course of laboratory work in industrial chemistry, in which the student will apply upon a small scale the principles involved in the processes of some of the more important chemical industries.

TEXT-BOOKS.

In qualitative analysis—Jones, Sellers, Fresenius, Plattner.

In quantitative analysis—Fresenius, Cairns, Sutton, Rose, Blair's Analysis of Iron and Steel, Bunsen, Rickett's Notes on Assaying, Mitchell's Manual of Practical Assaying, Stillman's Engineering Chemistry, Lord's Metallurgical Analysis.

In agricultural chemical analysis—Official methods of the Association of Agricultural Chemists, Wiley's Principles and Practice of Agricultural Analysis.

CHEMICAL LABORATORY.

[For description of building see page 16.]

The chemical apparatus recently purchased for the laboratory consists of a full supply of the most approved instruments for practical work and investigation. The building is supplied with water and gas and every appliance required to meet the demands of modern scientific instruction and research. In addition to the apparatus usually supplied to first-class laboratories, there have been imported a new and improved Schmidt and Hensch's polariscope, eight short-arm balances of latest pattern, Bunsen's spectroscope, Abbe refractometer, and other instruments for delicate and accurate work.

PHYSICS.

PROFESSOR SOUTHALL.

The complete course of Physics extends over four years, and is designed to give, as far as possible, an adequate and correct idea of the methods of Physical Science, and to lay the foundation for subsequent more advanced work if (as must often be the case, especially in an institution such as this) the student desires to pursue the subject further or intends to engage in any of the great engineering professions of which Physics is so important a basis. The lectures are illustrated by experiments; the students are required to work numerous problems and exercises; recitations are held each week.

FRESHMAN COURSE.

This course is very elementary, and continues only during the first and second terms. The object in view is to make the student familiar with the fundamental principles of Physics. The class meets three times a week, (The text-book will be announced later.)

SOPHOMORE COURSE.

This is a laboratory course, and deemed especially important for students of engineering, and of great advantage to such as intend to pursue the subsequent higher work in this department. The laboratory exercises are carefully selected, being designed to illustrate the fundamental methods and principles of Physics, and, although the work is necessarily more or less elementary, at the same time such accuracy and precision as the conditions admit of are insisted upon, so that the student is expected to acquire a fairly correct idea of modern experimental investigation. The exercises consist of the fundamental measurements of Length, Mass, Density, moduluses of Elasticity, pendulum experiments, etc., together with a few more advanced experiments in connection with the similar properties of Liquids and Gases, and the general phenomena of Heat and Sound. The student is required to write a careful report of such experiments, entering the results of observation in tabular form, and plotting a curve wherever practicable; also describing the object, apparatus, and method, and noting sources of errors, etc. Great stress is laid upon this requirement, and reports are not accepted unless they indicate that the student has done his best in every way. Four hours per week throughout entire year. (Text-book will be announced later.)

JUNIOR COURSE.

Lectures and recitations three hours a week throughout entire session. This is a more advanced course in general physics required of all candidates for a degree. The only preparation needed is a good working knowledge of mathematics through plane trigonometry. The course includes a series of illustrated lectures on the principles of Dynamics, as applied to Solids, Liquids, and Gases, Sound, and Heat, in the order named. Written exercises are required each week. (Textbook to be announced later.)

SENIOR COURSE.

Lectures and recitations two hours a week throughout the entire session. This course, although more advanced than the junior course, and occasionally employing the higher Mathematics, is a continuation of the work of the previous year. It might be called a course in Elementary Mathematical Physics, and the subjects, varying from year to year, that are treated in the lectures are such branches of Physics as Kinematics and Dynamics, Thermodynamics, Electricity and Magnetism, Geometrical and Physical Optics, etc. The student is encouraged to solve difficulties for himself, and to read the standard treatises and original memoirs on the various topics that come under discussion.

The last term of the session will generally be devoted to a brief course of lectures in *Descriptive Astronomy.*

The text-books in this class vary with the changing subjects, and will be announced by the professor each year.

GRADUATE COURSE.

This course will be designed to meet the needs of the students who take it. It will include both theoretical and experimental work in more advanced Mathematical Physics, or in Analytical Mechanics.

MODERN LANGUAGES.

PROFESSOR WIATT.

The chief aim in this department is to give the student a thorough and accurate knowledge of the elementary principles of the subjects taught, and to enable him to read with facility the ordinary French and German at sight. To train the ear, acquire a correct pronounciation and some facility in speaking, all recitations are supplemented, as far as practicable, by oral exercises in the languages themselves.

The following regular courses are given in French and German:

French—First Year: Three recitations a week. During this year the principal object is to acquire a knowledge of the elements of grammar and a correct pronounciation, together with a facility in translating ordinary French. Reading is begun at an early stage, and the principles of grammar are illustrated and impressed by frequent exercises in rendering English into French.

Second Year: Three recitations a week. During this year almost the same line of work is pursued as that begun the previous year. More difficult and varied French is read, and instruction is given upon the laws of grammar, the construction of the language, and the history of the literature. Special attention is given to sight translation.

German—Two Years: Three recitations a week the first year, three a week the second year. In this course the aim and the methods are similar to those in French.

The students in this department will meet the professor twice a week, from 4 to 5 p. m. during the *first term,* and the *third term,* for exercises in conversation in French and German.

TEXT-BOOKS.

FRENCH—*First Year*: Edgren's Grammar and Locard's Supplementary Exercises. Super's Reader.

Second Year: Corneille, Racine, Molière, selected modern French plays, Duval's Histoire de la Litterature Francaise, Fraser and Squair's French Grammar, French Composition.

GERMAN—*First Year*: Joynes-Meissner's Grammar, Huss's German Reader.

Second Year: Schiller, Lessing, selected modern German plays, German Lyrics, Bernhardt's Deutsche Litteraturgeschichte, Whitney's German Grammar, Harris's German Composition.

GRADUATE COURSE.

This course is offered for the benefit of those students who wish to pursue the study of these subjects beyond the scope to which a two-year course necessarily limits them. Here, in addition to the authors studied in the lecture room, a wide and extensive reading of authors and literature is prescribed.

POWER HOUSE.

ELECTRICAL ENGINEERING.

PROFESSOR DUNSTAN.

ASSISTANT JONES.

JUNIOR YEAR.

First Term: Four hours per week are devoted to the study of the principles of electricity and magnetism, with special reference to their industrial application. The subject of electrical measurements is also treated in detail.

Second Term: Incandescent lighting, four hours per week.

Third Term: Arc lighting and wiring, four hours per week.

TEXT-BOOKS.

S. P. Thompson's Electricity, Crocker's Electric Lighting, and Cushing's Standard Wiring.

Instruction is given by lectures and recitations.

LABORATORY WORK.

Four hours per week are devoted to work in the laboratory. This includes management of batteries, electrical measurements, adjustments and testing of arc lamps, and a considerable amount of wiring and some electrical construction.

SENIOR YEAR.

First Term: Dynamo electric machinery, five hours per week.

Second Term: Alternating currents and alternating current machinery.

Third Term: Polyphase machinery and power transmission, five hours per week.

TEXT-BOOKS.

Dynamo Electric Machinery, Thompson; Alternating Currents, Franklin and Williams; Standard Polyphase Apparatus, Oudin; Electrical Problems, Hooper and Wells.

LABORATORY WORK.

Six hours per week during the senior year are devoted to practical work in the dynamo laboratory. This work includes the study and testing of various types of dynamos and motors, the determination of various constants, dynamo and motor efficiencies, transformer testing and the general management and installation of electrical machinery.

ELECTRICAL DESIGNING.

During the first term each senior student is required to design and prepare the necessary drawings for the construction of a direct current dynamo or motor, and during the third term the design of an alternator is completed.

APPLICATION OF ELECTRICITY TO MINING.

Two hours per week for two terms of the senior year a course of recitations and lectures on electricity with especial reference to its use in mining is given to students taking the course in Mining Engineering. Sufficient laboratory and other practical work in testing and the study of generators, motors, etc., is given to thoroughly familiarize the student with electrical machinery of various kinds.

POST-GRADUATE COURSE.

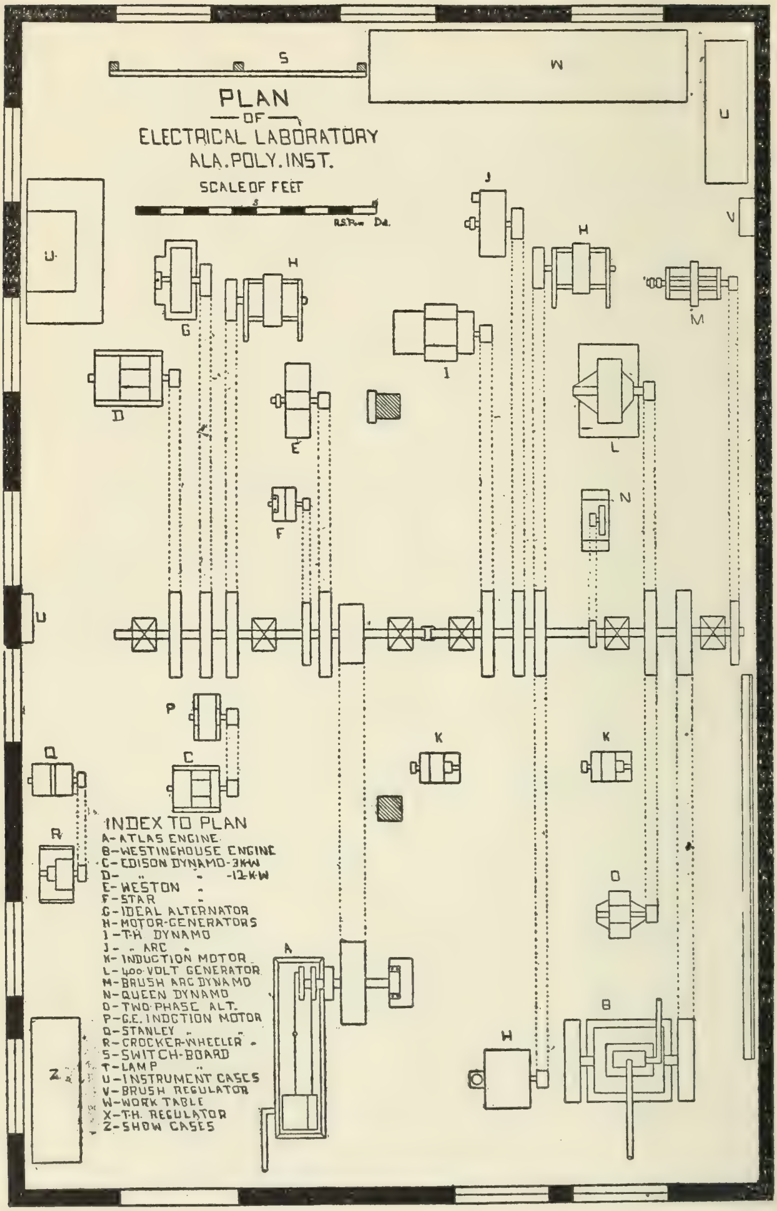
To graduate students more advanced courses of instruction are offered, these courses being varied from year to year to meet the needs of those taking them.

During the present session the courses given have been: Engineering Contracts and Specifications (one term). A study of the Law of Contracts, General and Technical Clauses in Specifications, Examinations and criticism of sets of Specifications for the Construction of various railway and light plants.

Induction Motors (two terms). A general theoretical and experimental study of various types of induction motors, the calculation of performance, diagrams from construction data of several motors, and the design of several types of induction motors.

Encouragement is offered to advanced students for conducting original investigations and an opportunity is taken to stimulate a spirit of scientific enquiry. Courses of reading are suggested to such students in conection with their experimental work.

The rapid extension of the lighting and power service gives unusual opportunities for practical work in wiring and the installation of electrical machinery. Most of this work is done by students, and great benefit is derived by them from it.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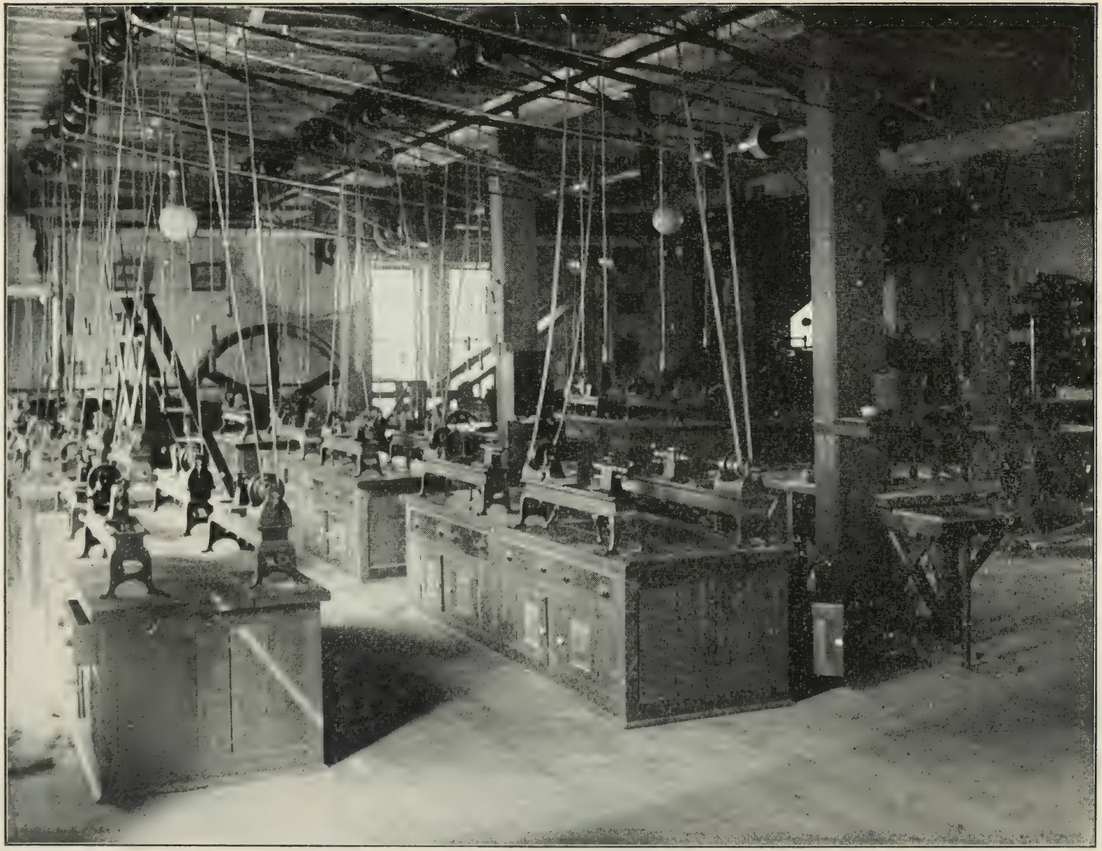
H-MOTOR-GENERATORS
I-T-H DYNAMO
J- " ARC "
K-INDUCTION MOTOR
L-400 VOLT GENERATOR
M-BRUSH ARC DYNAMO
N-QUEEN DYNAMO
O-TWO PHASE ALT.
P-G.E. INDCTION MOTOR
Q-STANLEY " "
R-CROCKER-WHEELER "
S-SWITCH-BOARD
T-LAMP "
U-INSTRUMENT CASES
V-BRUSH REGULATOR
W-WORK TABLE
X-T-H. REGULATOR
Z-SHOW CASES



WOOD ROOM.

MECHANICAL ENGINEERING AND MECHANIC ARTS.

PROFESSOR WILMORE.

ASSISTANT PROFESSOR FULLAN.

INSTRUCTOR HILL.

INSTRUCTOR STOKES.

ASSISTANT THOMAS.

The course in shop work covers three years, as follows: First year, wood working in carpentery and turning. Second year, blacksmith work, pattern making and foundry work. Third year, chipping, filing and machine work in metals. The work of each class is six hours per week, in three exercises of two hours each and all students in the sub-freshman, freshman, and sophomore classes are expected to take the work unless excused, for satisfactory reasons, by the Faculty. Machine shop work is required of all juniors in the course of Electrical and Mechanical Engineering, is optional with students in the course of Civil Engineering, and is offered to special students who are prepared to take it.

The equipment available for carrying on this work is enumerated on page 11 of this catalogue. The nature of the work in each department is as follows:

FIRST YEAR.

I. A course in carpentry or hand work covering the first two terms. The lessons include instruction in the nature and use of tools, instruction and practice in shop drawing, elementary work with the plane, saw, chisel, different kinds of joints, timber splices, cross joints, mortise and tenon, mitre and frame work, dovetail work, comprising different kinds of joints used in cabinet work, and examples in framing roof trusses. Students who make sufficient progress in their work are allowed to make a flat top office desk. Upon the payment of the bare cost of the materials, the student is allowed to take the desk to his home. This has been found to increase the interest of the student in the work, and serves as a valuable object lesson in having a considerable amount of actual construction work going on in the shop.

WOOD ROOM.

II. A course in turning extending through the third term. The lessons comprise the nature and use of the lathe and tools, plain straight turning, caliper work to different diameters and lengths, simple and compound curves, screw plate and chuck work, hollow and spherical turning.

SECOND YEAR.

I. A course in forge work in iron and steel, occupying the first term. The lessons are so arranged that the students in making them become familiar with the nature of the metals and the successive steps in working them by hand into simple and complex forms, as drawing, upsetting, bending, cutting, punching, welding by various methods, tool forging, tempering and hardening.

II. A course in turning extending through the third term. The work includes a variety of examples of whole and split patterns, with suitable core boxes, giving the students familiarity with the use of patterns for general molding.

III. A course in molding and casting in iron and brass occupying the third term. The work for the most part consists of small articles, such as light machine parts and the stock pieces used for the exercise work in the machine shop. A sufficient variety is introduced for the student to acquire a good general knowledge of the usual methods and appliances used in light foundry work. Most of the work is in green sand in two part flasks, but core work and some more complicated molds are made to illustrate the processes.

The same patterns which have been previously made by the students are used. For the heavier and more complicated castings, special patterns are made. Instruction is given in operating the cupola, and from time to time during the year lectures are given on the metallurgy and working of the metals used in the industrial arts.

THIRD YEAR.

I. A course of chipping and filing, covering the first term. The lessons comprise work on cast and wrought iron: chipping to line on flat and curved surfaces, key seating, filing and finishing to line, surface filing, fitting, slotting, pin and screw filing, and surface finishing with scraper.

II. Machine work occupies the remainder of the year. The work includes steel, brass, and cast and wrought iron. Exercises are given in turning to various diameters and lengths, taper turning, facing with chuck and face plate, drilling in the lathe and drill press, reaming, boring, screw cutting in lathe and with taps and dies. Practice is given in working the planer, shaper and milling machine. In the last part of the year some work in tool making is given, such as making taps, reamers, and milling cutters. Some sort of construction work or repair work for the department is always on the shop floor, and students who are well advanced with their work have opportunity to gain additional practice and experience by assisting with this.

All work is done from blue prints and blackboard sketches. For the preliminary exercise work, special instruction sheets are prepared and given out to the student with the stock for the exercise. These sheets explain in detail each step in the process of producing the exercise, and are intended to supplement the individual instruction of the instructor. In the construction work it is the purpose to select some simple machine and build two or more of them on the interchangeable system. Jigs and templates are designed and built to accomplish this result as far as possible. A system of time keeping is in force in the shop. At the end of the week, each student makes out his time card, describing the work he has done during the week and giving the number of hours spent on each job.

MECHANICAL ENGINEERING.

JUNIOR YEAR.

Kinematics of Machinery.—Three recitations per week during the first term are devoted to this subject. Under this head machines are analyzed and their elementary combinations of mechanism studied. The communication of motion by gear wheels, belts, cams, screws, and link work, the different ways of obtaining definite velocity ratio and definite changes of velocity, parallel motions and quick return motion, as well as the designing of trains of mechanism for various purposes, together with the theoretical forms of teeth for gear wheels to transmit the motion through these trains, are investigated under this subject.

Elementary Mechanics.—Three hours per week for the second term are devoted to this subject. Under it the fundamental laws of mechanical science are studied, with special attention to their practical applications to engineering work.

Mechanical Engineering of Power Plants.—The third term, three hours per week, is given to the study of the practical applications of steam machinery. It is believed that a thorough knowledge of the apparatus in actual practical use is the best preparation a student can have for the study of the theory, and to that end, the different types of engines, boilers, pumps, condensers, and other auxiliary apparatus are taken up and studied in detail, and the advantages and disadvantages of each discussed. Extensive files of manufacturers' catalogues are kept and the technical papers and magazines in the library are freely used in order to keep in touch with the latest and best practice in engineering work.

Practical Mechanics.—One hour per week during the year is given to recitations and lectures on machine shop work. The construction, use and limitations of the various machine tools, the forms of cutting tools and methods of grinding them, the form and use of jigs and gauges, are studied, together with instruction in machine shop management, time and cost of keeping.

Mechanical Drawing.—Four hours a week during the year are devoted to drawing. During the first part of the year instruction is given in the conventional methods of representing standard materials, and in the design of fastenings and machine parts. Later on scale drawings of simple machines are made from dimensional sketches which each student makes for himself from the actual machine. Free hand lettering, tracing, and blue printing receive attention, and all the instruction is intended to familiarize the student with modern drawing office methods.

Laboratory Work.—The laboratory work of the junior year is that described under the third year of the course in Mechanic Arts.

TEXT-BOOKS.

Barr's Kinematics of Machinery, Wood's Elementary Mechanics, Rose's Practical Machinist, and Reid's Elementary Machine Design.

Mechanical Engineering of Power Plants.—The first term, five hours per week, is given to a continuation of the junior class work under the same head. The text-book work will be supplemented by lectures on the structure and form of steam boilers, best methods of setting and handling them and preventing undue wear and tear. Lectures on some of the kinematical features of the steam engine, together with a study of valve gears, will be offered as part of the course.

Materials of Machines.—The first term, two hours per week, is devoted to this subject. Special attention is given to the manufacture of iron and steel, and to the strength of these metals under various conditions. The crude materials which go into the blast furnace and the by-products which come out also receive attention.

Thermodynamics.—The second and third terms, five hours per week, are given to this subject. It is first studied from the ideal standpoint, and later the applications are made to hot air engines, gas and gasoline engines, and steam engines, and also to air compressors and refrigerating machines. Graphical methods are used in preference to mathematical ones when they can be made to serve the purpose equally well, as it is believed that a more concrete conception can be presented to the mind of a student by a diagram than by a formula.

Indicator Practice.—The second term, two hours per week, will be given to a study of the indicator and its uses as applied to steam engines, gas engines, air compressors, and refrigerating machines. Particular attention is given to the interpretation of the diagrams and to the methods of working them up.

Pumps and Pumping Machinery.—The third term, two hours per week, will be given to the study of steam and power pumps as applied to boiler feeding, water works and irrigation purposes. The instruction will be given by lectures for the most part and the standard types, together with the conditions under which each type will give the most satisfactory service, are studied.

Machine Design.—The subject of machine design is made a continuation of the junior course and runs throughout the year, two hours a week. The general plan of the work follows the text-book used, and such additional exercises are given as are found desirable. The strength and proportion of joints, fastenings, and machine details, are studied. Problems are given, the dimensions worked out and the drawings made under the direction and criticism of the instructor. It is the purpose of the course, as far as time will permit, to prepare students for practical drawing room work.

Laboratory Work.—The students are not only taught how to calibrate and use the different instruments, but they are brought in contact with engineering appliances under practical working conditions. Thoroughness of work is sought rather than the performance of a large number of experiments.

The following course has been arranged:

Calibration of steam gauge; calibration of indicator spring; calibration of thermometer; calibration of scales; calorimeter tests with separating and throttling calorimeters; boiler test; efficiency test of engine with brake and indicator power measurement; test of hot air pumping engine; test of gasoline engine; efficiency and duty test of steam pump; transverse, compressional, and tensional tests of cast iron, wrought iron, steel and wood, in which are observed the limit of elasticity, the ultimate breaking strength, and the modulus of elasticity.

TEXT-BOOKS.

Hutton's Mechanical Engineering of Power Plants, Smith's Materials of Machines, Hutton's Heat and Heat Engines, Peabody's Manual of the Steam Engine Indicator, Reid's Machine Design.

POST GRADUATE COURSE.

Considerable latitude is allowed in the selection of post-graduate work, and the course is arranged each year to suit the requirements of the class. One of the following lines of work is recommended: Hydraulics, Thermodynamics, or Power Plant Engineering. The course selected is accompanied by suitable laboratory work.

GEOLOGY AND MINING ENGINEERING.

PROFESSOR MITCHAM.

General Geology.—This subject is studied in the senior class by students pursuing courses in Chemistry and Agriculture, Chemistry and Metallurgy, Civil Engineering, Mining Engineering and the General Course, and extends through the entire session. The subject begins with an introductory course in the study of the rock-forming minerals and Petrology, after which Dynamical, Structural, Physiographical and Historical Geology are taken up and studied in the order named. Special attention is given to the Geology of Alabama and the lectures and recitations are supplemented by laboratory instruction and geological excursions. Text-book, Scott's Introduction to Geology.

Mineralogy.—The students of the junior class in Mining Engineering devote two hours a week during the first term to the study of Crystallography. The junior classes in Civil and Mining Engineering, Chemistry and Metallurgy, devote four hours a week throughout the entire session, to the study of Determinative Mineralogy. The work consists of laboratory instruction in blowpiping, measuring crystals, and determining the physical properties of minerals. An effort is made to familiarize the student with the economically important ores and rock-forming minerals so that he can identify them by sight or, by applying a few simple tests in the field. Text-books; Moses & Pearson's Mineralogy and Crosby's Tables.

Mining Engineering.—The special studies in this subject begin with the first term in the junior class, and require a thorough knowledge of algebra, geometry and trigonometry. Special students who have not completed these subjects cannot pursue this course satisfactorily. The work begins with higher surveying, and is introduced by a course of lectures on the construction, theory, use and care of the various instruments used by engineers and surveyors in surveying, leveling and mapping. Following this, instruction is given in the theory and practice of traverse and triangulation surveys of extended areas, topographical surveying by the various methods, hydrographic surveying, guaging of streams, calculation of flow of water in open channels, pipes and conduits, levelling with barometer, differential, sections and cross section leveling with spirit level, establishing grades and calculation of quantities. Special attention is given to mine surveying and mapping. The work in surveying occupies five hours a week during the first and second terms and is concluded by a short course in railway surveying. During the third term five hours per week are devoted to the study of Economic Geology and Mining. The origin, modes of occurrence, and distribution of the various economically important ores, minerals, and building stones are studied, special attention being given to the mineral deposits of Alabama and the Southern Appalachians. Instruction in methods of prospecting, boring, breaking ground, supporting excavations, exploitation, and working various kinds of deposits occupy the time in this department for the remainder of the session. Johnson's Surveying and Field Book, Foster's Mining.

The senior class continues the study of Mining Engineering, including haulage, transmission of power, hoisting operations, and hoisting plants. Mine drainage, ore dressing, colliery screens, coal-washing plants, coke ovens, precautions for safety and mine administration are studied in detail. The senior class devotes three hours per week throughout the session to the subject. Text-book: Coal and Metal Miner's Pocket-book. Both junior and senior classes devote three hours a week to field work.

Drawing.—Both junior and senior classes pursue a course in drawing throughout the session, and are taught to make drawings, tracings and blue-prints; of various mining machinery and appliances, topographical maps, geological maps and sections, profiles, and working drawings of coke ovens, tipples and various mining structures. An effort is also made to have the student acquire a neat, practical system of lettering for working drawings and maps. Text-books: Rheinhardt's Technic of Mechanical Drafting, Rheinhardt's Lettering.

MINERALOGICAL LABORATORY.

AGRICULTURE.

PROFESSOR DUGGAR.

INSTRUCTOR REW.

ASSISTANT HUDSON.

Five terms are devoted to soils, crops and other portions of the subject of general agriculture and four terms to animal industry.

Instruction in agriculture is given by means of lectures, textbooks, bulletins of the agricultural experiment stations, and practical work in field, barn and dairy.

The study of agriculture begins with the freshman class in the third term, and occupies three terms of the sophomore year, two terms of the junior year, and will hereafter extend through three terms of the senior year.

The time devoted to this study in the lecture room is two hours per week with each class, in addition to two or four hours of laboratory work per week in barn, field, dairy or library.

The subjects studied by the freshman class are the breeds of horses, cattle, sheep and hogs—their characteristics, uses, management and adaptability to the South.

The first term of the sophomore year is devoted to dairying, which is taught by practical work in the dairy—butter making, cheese making, determination of fat in milk by the Babcock method, etc.,—as well as by instruction in the lecture room.

In the second term of the sophomore year the following subjects are studied: Soils—chemical and physical properties, defects, and means of improvement; characteristics of the principal soils of Alabama and the special adaptability of each to particular crops; terracing; objects and methods of preparation and cultivation of the soil; fertilizers; and the renovation of poor soils. Practical work in judging the principal breeds of beef and dairy cattle, hogs, and sheep occupies four hours per week throughout the term.

During the third term the student studies the grasses, leguminous, and other forage plants adapted to the different soils of this State. Instruction in the choice of suitable plants, recognition of the most important forage plants and of their seeds, preparation of meadows and pastures, and principles and practice of hay-making, is both by lectures and by field work and observation of experiments.

In the junior year the topics of the first term are the staple crops of the South, including cotton, corn, oats, wheat, tobacco and rice. The more important crops are treated with reference to varieties, soil and fertilizer requirements, methods of planting and cultivation and uses. Plant breeding, with the special aim of effecting improvement in existing varieties of cotton, corn and cowpeas, by means of systematic selection and crossing, will be taught both in the lecture room and in the field. Students make observations and notes on and assist in harvesting the large collections of varieties of cotton, corn, cowpeas, etc., grown on the Experiment Station Farm.

During the second term the topic is the feeding of animals and the compounding of rations.

The seniors will hereafter study during the first term drainage, irrigation, farm implements and farm buildings; during the second term the principles of animal breeding; and during the third term farm management, including different systems of farming and stock growing, rotation of crops, care of farm manures, choice and methods of applying commercial fertilizers for different soils and crops; markets and results of experiments.

As far as limited time allows, attention is directed to agricultural literature now accumulating so rapidly in this and foreign countries, to the end that in future years the student may know where and how to seek the information that he may need.

Applicants for post-graduate work in agriculture will be assigned special research work and aided in the line of investigation deemed best for each individual student.

FACILITIES FOR INSTRUCTION.

Students who take the agricultural course have the benefit of the numerous field and feeding experiments continually in progress on the Experiment Station Farm. The dairy building is equipped for work in making butter and cheese on a small scale and for testing milk.

The specimens of live stock brought together for the special purpose of students' use in the study of breeds and in practice in judging animals consist of representatives of Angus, Shorthorn, Red Polled, and Jersey cattle; Berkshire and Poland China hogs; and Dorset, Southdown, Shropshire, common and graded sheep. Important additions to the live stock are planned.

TEXT AND REFERENCE BOOKS.

Horses, Cattle, Sheep and Swine, by Curtis; The Study of Breeds, by Shaw; Sheep, by Wrightson; The Domestic Sheep, by Stewart; Milk and Its Products, by Wing; Milk Testing, by Farrington & Woll; Soils and Crops on the Farm, Morrow & Hunt; Forage Plants, by Shaw; Soiling Crops and the Silo, by Shaw; The Fertility of the Soil, by Roberts; Corn Culture, by Plumb; Irrigation and Drainage, by King; Irrigation Farming, by Wilcox; Physics of Agriculture, by King; Manures and the Principles of Manuring, by Aikman; Drainage for Profit and Health, by Waring; Agriculture in Some of Its Relations with Chemistry, by Storer; The Feeding of Animals, by Jordan; Feeds and Feeding, by Henry; Animal Breeding, by Shaw; Hand-book of Experiment Station Work; and selected publications of the various divisions of the U. S. Department of Agriculture, and of the Agricultural Experiment Stations.

TWO YEAR COURSE IN AGRICULTURE.

All persons interested in agriculture are advised to take the full four-year course, which besides offering a well rounded general education, should fit them for farming or stock raising, or for special work in agricultural journalism, or for positions in the experiment stations and colleges and in the National Department of Agriculture.

However, those who are able to spend only two years at college may take the two-year course in agriculture and thus devote practically all of their time to agriculture and the closely related branches of study. In the two-year course the studies are so arranged that the nine courses in general agriculture and animal industry, together with work in other departments of applied science, may be completed during two sessions.

BOTANY.

PROFESSOR WILCOX.

ASSISTANT WARD.

1. ELEMENTARY BOTANY. This course offers a general introduction to the science of botany and is therefore a prerequisite of all other courses in botany. The general principles of morphology and classification will be developed from the standpoint of physiology and ecology. In the laboratory the student will become acquainted with the general morphology and physiology of the spermatophytes and of some of the most important facts of ecology.

LECTURES AND RECITATIONS. Three hours per week during the spring term of the sophomore year.

LABORATORY WORK. Four hours per week.

2. GENERAL MORPHOLOGY. This course will be devoted to the study in the laboratory of carefully selected representatives of the principle groups of plants. The lectures and recitations will supplement the laboratory work and fill up such gaps in the student's knowledge as are incident to the study of isolated types. In all cases where possible special attention will be devoted to plants of economic importance, in either agriculture or medicine.

LECTURES AND RECITATIONS. Two hours per week during the fall and winter terms.

LABORATORY WORK. Four hours per week for students in the long and short courses in pharmacy, but only two hours for other students.

3. COMPARATIVE ANATOMY OF THE SPERMATOPHYTES. A thorough study of the structure and activities of the plant cell will be followed by an examination of the typical tissues with special reference to their function. Students are required to become acquainted with the general methods of botanical microtechnique, including the killing, fixing, imbedding, sectioning, staining, mounting and drawing of all the tissues examined. Students in pharmacy will devote special attention to

LABORATORY OF BOTANY

the study of the structure of plants employed in medicine while other students will give more attention to those matters that will be of the greatest value to them in the subsequent courses in the subject.

LECTURES AND RECITATIONS. Two hours per week during the spring term.

LABORATORY WORK. Four hours per week for students in the pharmacy courses, but only two hours for other students.

4. PHYTOPHYSIOLOGY. This is a course of carefully selected experiments, to be perfomed by each student, supplemented by selected readings, conferences and lectures upon certain subjects. It will be the aim of this course to develop a good, general knowledge of the most important functions of seed-plants, such as absorption, photosynthetic assimilation of carbon-dioxide, transpiration, respiration, etc.

LECTURES AND RECITATIONS. Two hours per week during the fall and winter terms of the senior year.

LABORATORY WORK. Four hours per week.

5. PHYTOPATHOLOGY. The aim of this course is to present a broad and comprehensive view of the subject. A thorough study will be made of the principal diseases due to parasitic fungi, but not to the exclusion of diseases produced by unfavorable surroundings and various inorganic factors.

LECTURES AND RECITATIONS. Two hours per week during the spring term of the senior year.

LABORATORY WORK. Four hours per week.

6. BOTANICAL SEMINAR. It is expected that meetings will be held twice per month at which the results of the latest researches in various languages will be presented and informally discussed. The seminar will be open to all juniors, seniors and post graduates taking work in this department and the meetings will be held at some time convenient to all who wish to take part.

7. RESEARCH AND THESIS WORK.—The following lines of work are open to the students during this year:

(1) Comparative embryology of spermatophytes.
(2) Ecology and ecological anatomy.
(3) Physiology and morphogenesis.
(4) Advanced plant physiology.
(5) Advanced cytology.
(6) Forestry or plant culture.
(7) Plant breeding or biometry.

It is expected that seniors who do their thesis work in this department will select a subject in one of these groups, and that the result of the research will be presented as a thesis for publication.

PHYSIOLOGY AND VETERINARY SCIENCE.

PROFESSOR CARY.

ASSISTANT M'ADORY.

The sophomore class studies human anatomy, physiology and hygiene during the entire college year.

It is the aim of the department to give the students practical and real knowledge of the gross anatomy and functions of the various parts of the human body. Due attention is given, also, to the laws of health—the conditions most favorable to a continuous healthy action of the organs of the human body.

Instruction is given by lectures and by text-books supplemented by blackboard drawings, charts, models of organs, a human skeleton, and by dissections of some of the smaller animals (dog, cat, etc.)

Huxley's Physiology is used as a text and reference book, and several other books on anatomy, physiology and hygiene may be consulted in the college library.

VETERINARY SCIENCE AND ART.

Students in the agricultural and chemical course of study, during the entire junior and senior years, devote to this work two hours per week in the class room and three hours per week at practical clinics. Instruction in veterinary science and art is given by lectures.

VETERINARY LABORATORY.

The lectures are arranged with special reference to the students who are interested in horses or other domestic animals; also to those students who contemplate studying human or veterinary medicine. While it is not the aim to give a complete course in veterinary medicine, we attempt to present the general principles of comparative medicine with such special applications as are adapted to the conditions and wants of the students.

Special attention is given to the exterior anatomy of the horse, while comparative anatomy is presented mainly in connection with the study of the diseases of the different apparatus of the horse or other domestic animals.

Special students in this department study comparative anatomy and have practical dissection from 6 to 15 hours per week during the entire year.

Lameness in the horse, minor surgery, the actions and uses of the most common medicines, the principles and practices of comparative medicines, and the ways of protecting the health of domestic animals, are considered in as plain and practical a manner as the time allotted to each subject will permit. Post-mortem examination and the dissection of domestic animals are used as object lessons in the study of general pathology and anatomy.

To the post-graduate student this department furnishes work in histology, pathology, bacteriology, meat and milk inspection. This work gives students who contemplate studying medicine excellent preparatory work along that line. Such students may devote one-half their time to work in this department with the approval of the Faculty.

Histology includes methods of injecting small animals, collecting, fixing, hardening, imbedding, section cutting, mounting, staining, examining under the microscope, drawing and describing the different tissues.

Pathology is studied in text and reference books and morbid histology embraces naked eye and miscroscopical examinations of diseased tissues in the laboratory. Quite a collection of diseased tissues and animal parasites is found in connection with the laboratory.

The laboratory is well fitted for the study of bacteriology. Bacteriological analysis of water, milk, sputum, pus, diseased tissues, and of soils can be made. All of the practical operations in the preparation of culture, media, sterilization, inoculations of small animals, staining, microscopical examinations, may be learned. In the laboratory are three Bausch & Lomb and two Winkel microscopes, each of which is supplied with oil immersion objectives, two oculars, Abbe condenser, and iris diaphragm. Sterilizers, autoclaves, incubators, and all the necessary apparatus required in bacteriological work are to be found in the laboratory.

The department of physiology and veterinary science is now located by itself in a building which consists of a two-story portion containing four laboratory rooms on the second floor and a lecture room, museum and office on the lower floor and a one-story part which contains an operating room.

The building is supplied with water and gas and the laboratory is now equipped for work. The museum contains the skeletons of the horse, the ox, the sheep, and the hog, and a human skeleton. It also contains anatomical models of the various parts and organs of the human body, and models of many parts of the horse, the ox and the other domestic animals. It also contains a collection of pathological and anatomical specimens, and one of animal parasites.

The new veterinary hospital building contains five large box-stalls, four open single stalls, an office and a feed room on the lower floor; the upper floor is used as a storage room for hay, fodder, etc. The hospital is supplied with fresh water.

This department has a new brick cement dissecting room (16x32). It is supplied with an extensive north skylight, and with water and gas.

Every Saturday during the college year the department conducts a free clinic for the benefit of the students in veterinary science and art. Clinical cases have been various and numerous, giving the students opportunity to see and study many diseases and lameness and to become proficient in minor operations.

BACTERIOLOGY AND THERAPEUTICS.

The senior class in pharmacy devotes six hours per week during the first and second terms to class room and laboratory work in bacteriology; and three hours per week during the third term to therapeutics.

LABORATORY OF PHARMACY.

PHARMACY AND PHARMACOGNOSY.

PROFESSOR MILLER.

ASSISTANT MARSH.

JUNIOR YEAR.

Pharmacy—Class work, *three hours* a week. The different systems of weights and measures. Specific gravity. Pharmaceutical problems. The fundamental operations in pharmacy. Apparatus used in pharmaceutical processes. Discussion of all classes of pharmaceutical preparations.

Laboratory, *nine hours* a week. Preparation of official and non-official galenicals.

Pharmacognosy.—Class work with laboratory work, *four hours* a week. All official vegetable drugs studied with aid of simple and compound microscope.

SENIOR YEAR.

Pharmacy.—class work, *five hours* a week. Official and no-official pharmaceutical chemicals, inorganic and organic, including the more important newer remedies.

Laboratory, fifteen hours a week. Preparation of official and non-official pharmaceutical chemicals, inorganic and organic. Pharmaceutical testing by pharmacopoeial methods. Drug assaying. Practical exercises in identification of pharmaceutical preparations and chemicals.

Art of Dispensing.—The prescription. The study of several hundred original prescriptions from drug-store files. Incompatibilities. Doses.

Pharmacognosy.—Class work with laboratory work, four hours a week. The study of all official crude drugs and the more important non-official ones.

The practical work in pharmacy includes the manufacture of not less than three hundred pharmaceutical preparations and the compounding of not less than fifty prescriptions.

The work in pharmacognosy includes the study of more that 300 drugs, each of which the student is required to recognize by its physical and chemical properties, giving Latin name, common name, origin, habitat, constituents, medicinal action and dose.

The work of the third year in the special course in Pharmacy embraces:

1. An advanced course in the manufacture of Galenicals and Organic and Inorganic Chemicals used in medicine. 2. A course in the testing of drugs and medicinal chemicals for impurities by Pharmacopeial methods. 3. A course in Pharmaceutical Assaying, including the assay of alkaloidal drugs, glucosidal drugs, resinous drugs, the valuation of fixed and volatile oils, pepsin, diastase, etc. 4 A course in Water Analysis. 5. A course in Milk and Butter Analysis. 6. A course in Physiological Chemistry. 7. A course in Organic Preparations. 8. An advanced course in Toxicological Analysis. 9. The presentation of a satisfactory Thesis.

Any one who completes the work of the three-year special course in such a manner as to prove himself a competent analyst will be granted a certificate as Pharmaceutical Chemist.

TEXT AND REFERENCE BOOKS.

Caspari's Treatise on Pharmacy, Sayre's Organic Materia Medica and Pharmacognosy, Scoville's The Art of Compounding, Ruddiman's Incompatibilities in Prescriptions, Lyon's Pharmaceutical Assaying, United States Pharmacopoeia, United States Dispensatory, National Dispensatory, King's American Dispensatory, Prescott's Organic Analysis, Pharmaceutical Journals, Reports of American Pharmaceutical Association.

HORTICULTURE.

PROFESSOR MACKINTOSH.

ASSISTANT KINMAN.

During the third term of the sophomore year instruction is given as outlined in Goff's Principles of Plant Culture.

During the second and third terms of the junior year three hours per week are spent in class room work and four hours per week in laboratory work. Class work consists of lectures, textbook work, reference reading. The laboratory work consists of practical work in the green house, gardens and orchards of the Experiment Station.

Considerable time is given to budding and grafting, pruning, propagating by seeds and cuttings, spraying, etc. The subjects studied will be the growing of the various fruits and vegetables for home use and for market.

Text-books: Principles of Plant Culture, Vegetable Gardening and the Nursery Book.

MILITARY SCIENCE AND TACTICS.

COL. B. S. PATRICK, COMMANDANT.

Military science and tactics are required by law to be taught in this institution. The law is faithfully carried out by imparting to each student, not physically incapacitated to bear arms, practical instruction in the school of the soldier, of the company and of the battalion in close and extended order, also in guard mountings, inspections, dress parades, reviews, etc.

Under Section 1225, U. S. Revised Statutes, the college is provided with modern cadet rifles and accoutrements.

The following uniform of standard cadet gray cloth has been prescribed for dress: Coat and trousers as worn for fatigue at West Point, with dark blue cadet cap. A neat and serviceable uniform can be obtained here at $14 to $15. This is less expensive than the usual clothing. All students are required to wear this uniform during the session.

The entire body of students is divided into companies. The officers are selected for military efficiency, good conduct and scholarship. The commissioned officers will be selected from either the senior or junior classes, and promotion will depend on merit and not wholly on seniority.

A band, composed of cadets, furnishes appropriate music at all reviews and parades, and on other special occasions.

A student who has once accepted an office cannot resign it except for reasons entirely satisfactory to the President and the Commandant. The resignation of an office will usually not be considered without first placing all the circumstances of the case before his parent or guardian.

Candidates for appointment or promotion may be required to stand an examination. Moral fitness, including demerits, will be considered.

Examinations will be conducted by a board of officers, to be composed of the Commandant of Cadets and two commissioned officers, to be designated by him. The proceedings of the board are subject to revision and approval by the President of the College.

Each company is officered by one captain and two first lieutenants, one second lieutenant, and with a proper number of non-commissioned officers. The officers and non-commissioned officers are distinguished by appropriate insignia of rank. These appointments are confirmed by the President on nomination of the Commandant.

The junior class recites once a week in the United States Infantry Drill Regulations.

The senior class recites once a week in Wagner's Security and Information, and Manual of Guard Duty, U. S. Army.

On the graduation of each class the names of such students as have shown special aptitude for military service will be reported to the Adjutant-General of the U. S. Army, and the names of the three most distinguished in military science and tactics will be inserted in the U. S. Army Register, and published in general orders from headquarters of the army.

CADET BAND.

The cadet band is a part of the military organization of the college. It takes part in the military and other exercises, and plays when its services are required.

Regular and individual instruction is given free of charge by the bandmaster. A text-book on general musical information is used in connection with the practical instruction.

A gold medal is given each year by the bandmaster to the member of the band who makes the best general record for the year. The presentation is made at Commencement.

MISCELLANEOUS.

GYMNASIUM AND ATHLETIC FIELD.

The gymnasium is situated at the west end of the athletic and drill grounds, and contains one room, 80x40 feet, with strong beams above for fastening the usual fixtures.

It is equipped with Spalding's gymnasium apparatus and is open to all students at stated hours, under the care of an officer.

CORPS OF CADETS.

The athletic field has a quarter-mile cinder track and ample space for football, baseball and general athletics.

DISCIPLINE.

The government of the college is administered by the President and Faculty in accordance with the code of laws and regulations enacted by the Trustees.

Attention to study and punctuality in attendance on recitations and all other duties, are required of every student. Students are prohibited from having in their possession arms or weapons not issued for the performance of military duty, and also from using or causing to be brought into the college limits, intoxicating liquors.

Students are not permitted to participate in any public entertainment, or game, without previously obtaining the consent of the Faculty.

No cadet will be permitted, without the approval of his parent or guardian, to take part in a public game of football; nor will permission be given for any athletic game away from the college to a student deficient in his studies.

MILITARY DRILL.

There are three regular military drills each week and all undergraduate students, not physically incapacitated to bear arms, are required to engage in these exercises; privates of the senior class are exempt.

The drills are short and the duty involves no hardships. The military drill is a health-giving exercise, and its good effects in the development of the *physique* and improvement of the carriage of the cadet are manifest.

RELIGIOUS SERVICES.

Religious services are held every morning in the chapel.

All students are required to attend these exercises, and also to attend the church of their choice at least once on Sunday.

Opportunities are also offered for attending Bible classes every Sunday.

YOUNG MEN'S CHRISTIAN ASSOCIATION.

This association is regularly organized and has a well furnished room on the first floor of a building set apart for its exclusive use.

Through its weekly meetings it exerts a wholesome Christian influence among the students.

Students are advised to unite with the association when they enter the Institute.

The ladies of the different churches in Auburn are organized into an auxiliary association to the Y. M. C. A. of this Institute. Assisted by members of the Faculty, they will hold monthly a joint service of praise in the college chapel, and will provide lectures for the occasion.

They have also undertaken to build a special hall for the use of the Association, and will solicit subscriptions for that purpose.

The following are the officers of the Association:

C. K. Gould	President.
J. M. Poyner	Vice-President.
M. A. Frazer	Corresponding Secretary.
F. D. King	Recording Secretary.
H. M. Averyt	Treasurer.
O. C. Skinner	Librarian.

LOCATION.

The Institute is situated in the town of Auburn, fifty-nine miles east of Montgomery, on the line of the Western Railroad.

The region is high and healthful, noted for its general good health and freedom from malaria, having an elevation of eight hundred and twenty-six feet above tide-water. By statute of the State the sale of spirituous liquors and the keeping of saloons of any kind are forbidden.

BOARDING.

The Institute has no barracks or dormitories, and the students board with families of the town of Auburn, and thus enjoy all the protecting and beneficial influences of the family circle.

REGULATIONS.

(1) Each student upon entering is required to sign his name in the matriculation book and pledge himself to obey the rules and regulations of the college.

(2) Every absence from recitation or examination is graded zero.

(3) When the term grade of a cadet is lowered by reason of absence for which satisfactory excuse can be rendered, a special term re-examination may be subsequently granted, and the grade made on the special re-examination alone is substituted for that previously received.

(4) Only sickness, as reported by the Surgeon, or absence by reason of family sickness, or official or collegiate business, will constitute a satisfactory excuse for granting a re-examination.

When a cadet is called away from college by his parents for reasons other than those specified above, his zeroes for absence are not removed.

(5) The term grade of a student is the average of his daily sessional and term examination marks, found by giving due weight to the term examination.

(6) Privates of the senior class in full standing who are candidates for graduation may be excused by the President from all military drills, and also students over twenty-one years of age at the time of entering College that are permitted to devote their time to one special study, as chemistry, agriculture, or pharmacy, provided the time devoted to drill is spent by them in laboratory work.

No cadet can remain an officer who receives during the session more than seventy-five demerits.

DISTINCTIONS.

Distinctions are awarded in the different subjects of each class to those students whose grade for the entire year is above ninety per cent.

Certificates of distinction are awarded in public on Commencement day to those who obtain an average of ninety per cent. in all the prescribed studies of a regular class; and also to those who obtain three distinctions in the freshman class, four in the sophomore class, five in the junior class, and six in the senior class; provided they have satisfactorily passed all the regular examinations of that session, and have not received forty demerits during the year.

A distinction is not given in the senior class if the average grade in any one subject is less than 75 per cent.

HONORS.

Members of the senior class who attain distinction at the final examinations with an average grade, in the subjects required, of 95 per cent. will be published as

GRADUATES WITH HIGHEST HONOR.

Those who attain distinction with an average grade of 90 per cent. and less than 95, are published as

Graduates with Honor.

Those who attain less than 90 per cent. and more than 60 per cent. are published as *Graduates.*

Students of the classes lower than the senior, who attain distinction with an average grade in the required subjects of 95 per cent. are published in alphabetical order as having attained the *Highest Distinction.*

RECORDS AND CIRCULARS.

Daily records of the various exercises of the classes are kept by the officers of instruction.

At the close of each term and at regular intervals reports giving the grade made by each student are sent to the parent or guardian.

EXAMINATIONS.

Written examinations on the studies of the month are held by each professor during the months of October, February, and April. Each examination occupies one hour.

At the end of each term written examinations, or written and oral, are held on the studies passed over during that term.

Special examinations are held only by order of the Faculty, and in no case will private examinations be permitted.

Students falling below the minimum grade at the final examinations, can be promoted to full standing in the next higher class only on satisfactory examinations at the opening of the next session.

It is required that every student who enters the College shall remain through the examinations at the end of the term. Leaves of absence and honorable discharges will, therefore, not be granted within three weeks of the examination, except for providential reasons.

The following scholarships and prizes have been established:

THE WILLIAM LEROY BROUN MEMORIAL SCHOLARSHIP OF $170, established by the Alumni Society in memory of the late distinguished President of the Institute.

THE LIGON SCHOLARSHIP OF $170, established by Col. R. F. Ligon, Montgomery, Ala.

THE THOMAS SCHOLARSHIP OF $170, established by Judge William H. Thomas, Montgomery, Ala.

THE BALL SCHOLARSHIP OF $170, established by Mr. Fred S. Ball, Montgomery, Ala.

THE DUNKLIN SCHOLARSHIP OF $600, established by Mr. and Mrs. J. C. Street, Anniston, Ala., in memory of Prof. J. T. Dunklin, formerly Professor of Latin in the Institute.

The scholarships enumerated above are loan scholarships, granted to worthy young men or women, to be returned after graduation. No interest is charged until one year after leaving college.

The above-named scholarships and ten other scholarships are administered by the Alumni Society. For information address R. D. Webb, Secretary.

PRIZES.

THE ORATORICAL PRIZE, medal to that member of the junior class who composed and delivers the best oration on junior Class day of Commencement.
1904, *Walter R. Samford,* Lee County.

THE ORATORICAL PRIZE for the Annual Inter-Literary Society Contest, February 22d.
1905, *Mell A. Frazer,* Mobile County.

SOPHOMORE MEDAL IN DECLAMATION for annual contest, May 1st.
1905. *N. B. McLeod,* Clarke County.

PRIZE FOR BEST DEBATER, a medal given annually by the Board of Trustees to the best debater in the Wirt and Websterian Literary Societies each.

A GOLD MEDAL, offered by Lewis Chapter of the Daughters of the American Revolution for the best historical paper by a young woman student. 1904, *Miss Bessie Alvis,* Lee County.

A PRIZE OF FIFTY DOLLARS, offered by the Colonial Dames of Alabama, for the best historical paper on a colonial subject written by a young man student. 1904 awarded to *Wm. A. Branan,* Georgia.

THE THOMAS ESSAY PRIZE, a gold medal offered by Judge William H. Thomas, of Montgomery, Ala., for the best written essay by any undergraduate student of the college. This essay must be written under the supervision of the department of English. 1904. *K. L. Forrester,* Houston County.

BATTALION MEDAL for best drilled soldier. 1904, *R. P. Boyd,* Montgomery, Ala.

PRIZE FOR BEST DRILLED COMPANY, a sword given by Board of Trustees. 1904, *Captain William M. Wilson of Co. B.,* Gadsden, Ala.

LIBRARY.

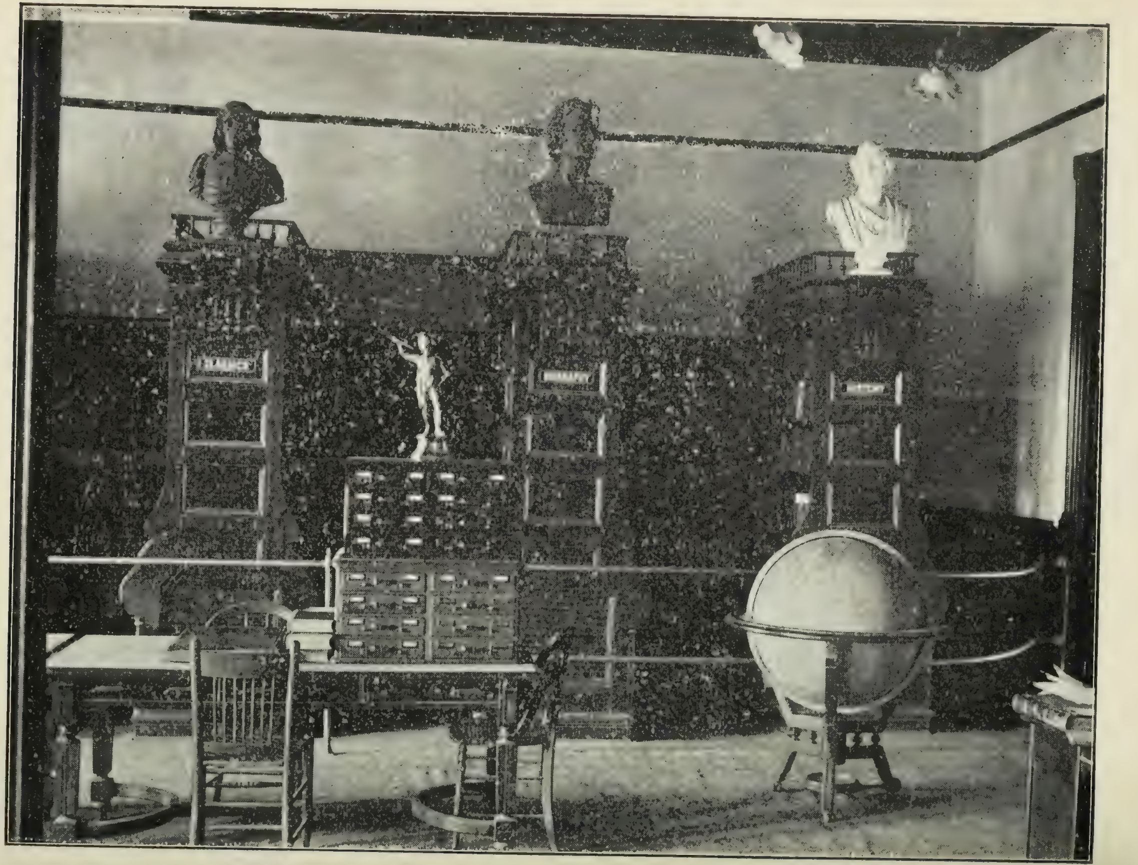
The Library occupies an elegant well-lighted room in the main building, and also three adjacent rooms. It contains over 19,000 bound volumes, including valuable reference and scientific books, with select editions of standard authors, and others suitable for students, carefully and recently selected. It is kept open eight hours daily for the use of students as a reading room and is thus made an important educational feature.

MUSEUM.

The Museum occupies a large room in the third story. It is provided with suitable cases and is equipped with valuable specimens and models of an instructive character.

BOARDING HOUSES.

For each house an inspector is appointed, whose duty it is to report those who, without permission, leave their rooms after "call to quarters," or are guilty of any violation of order. The report of the inspector is made to the Commandant on alternate days of the week.



GENERAL LIBRARY

Students, after selecting their boarding houses, are not permitted to make changes without obtaining permission from the President, and this permission is given only at the close of a term, except for special reasons approved by the parent.

Permission to board and lodge at separate houses will be granted only to seniors, and to cadets twenty-one years of age, except on special conditions.

EXPENSES.

There is no charge for tuition for a resident of Alabama.

Incidental fee, per session	$5 00
Library fee, per session	2 00
Surgeon's fee, per session	5 00
	$12 00

These fees are payable on matriculation. *By order of the Trustees no fees can be remitted.*

Board, including lodging, fuel and lights, is furnished at $12.50 to $15.00 per month.

For a non-resident of the State there is a charge for tuition of $20.00 per session, payable on matriculation, in addition to the annual fee of $12.00 payable by all students.

The necessary expenses for a session, not including uniforms or books, are for a resident of Alabama, as follows:

College fees	$12 00	$12 00
Board, lodging, fuel and lights	112 50	135 00
Washing	9 00	9 00
Total	$133 50	$156 00

By special arrangement with the college authorities, Mrs. M. L. Mitchell, Mrs. W. Y. Jones, and Mr. B. T. Blasingame will accommodate students with board, lodging, fuel, etc., for $9.50 per month.

By boarding at one of these houses the necessary expenses may be reduced to $106.50 per session. This estimate does not include the cost of the uniform, about $15.00, or of books, say from $5.00 to $15.00, or the laboratory fees in the higher classes, $5.00.

LABORATORY FEES.

For each student in the junior or senior laboratory in pharmacy, chemistry, or in electrical or mechanical engineering, a fee of $2.50 per session is required for each department. This fee is payable *on admission to the laboratory,* and is not remitted.

NON-RESIDENT STUDENTS.

Tuition for students, not residents of Alabama, is $20.00 per session, unless remitted by the Trustees to worthy students upon the recommendation of the Faculty.

The remission of this tuition fee to non-resident students will be granted in the form of a free scholarship for the succeeding year, to those who obtain a distinction the preceding year, or who, by reason of merit, are deemed worthy.

This tuition for non-residents is remitted to sons of ministers of the gospel.

HONOR SCHOLARSHIPS.

The following non-resident students were granted, each by reason of special merit in conduct and scholarship during the session of 1903-1904, an honor scholarship, which exempted from tuition fees:

Ralph Dudley	Georgia.
William Spence Lurton	Florida.
Henry Gaston Mitchel	Tennessee.
Helen Tracy Parsons	Kansas.
Edmund Augustus Wright	Tennessee.

UNIFORMS.

A uniform of cadet gray cloth is prescribed, which all undergraduate students are required to wear during the session. The uniforms are made by a contractor, and are of excellent cloth manufactured at the Charlottesville mill. This suit, including cap, costs at present $14.40. It is neat and serviceable, and less expensive than ordinary clothing.

CONTINGENT FEE.

A contingent fee of five dollars is required to be deposited by each student on matriculation, to cover any special or general damage to college property for which he may be liable. General damages are assessed on the body of students.

At the close of the session the whole of the contingent fee, or the unexpended balance, is refunded to the student.

AMOUNT OF DEPOSIT.

Fees to be paid on entrance:

Incidental fee	$5 00	
Library	2 00	
Surgeon	5 00	
Contingent fee	5 00	
Uniform	14 40	
For a resident of Alabama	$31 40	$31 40
Tuition non-resident		$20 00
For a non-resident		$51 40

Besides the above, the student should deposit with the Treasurer enough to pay for books, one month's board, incidentals, amounting to say, $27.50. Hence, a resident of Alabama should deposit with the Treasurer $60.00; a non-resident, $75.00.

FUNDS OF STUDENTS.

Parents and guardians are advised to deposit with the Treasurer of the college all funds desired for sons or wards, whether for regular charges or college fees or board, or for any other purpose. It is the duty of this officer to keep safely all funds placed in his hands, and to pay all expenses incurred by the students, including board, uniform, books, etc.

The college cannot be held responsible for the expenses of a student, unless the funds are deposited under specific instructions from the parent or guardian to the Treasurer. No student should be permitted to have a large amount of pocket money, as it brings only trouble and encourages idleness.

THESIS.

Each applicant for a degree is required to write and submit to the Faculty a thesis, or oration, and read and deliver the same at Commencement, if required by the Faculty.

There may be presented, with the approval of the professor in charge, a carefully written report of special work done in a laboratory, showing independent investigation and discussion of some subject.

It must be given to the Professor of English by the first of May. The subject must be submitted for approval by January 1st.

LITERARY SOCIETIES.

There are two literary societies connected with the college—the Wirt and the Websterian. Each has a hall in the main building.

These societies hold celebrations on the evenings of Thanksgiving Day and 22d of February. A gentleman, selected by the Faculty, is invited to deliver an address before the Literary Societies at Commencement.

To encourage the literary societies the Trustees have directed that a medal be awarded on Commencement Day to the member of each society who is both efficient and regular in attendance, and who is the best debater. The method of selection is determined by the Faculty.

EXERCISES IN ELOCUTION.

On every Saturday morning, immediately after chapel services, oratorical exercises in declamation and in original orations are conducted by the Professor of English, in the presence of the Faculty and students.

The *first and second terms* the students of the junior and sophomore classes are exercised in original orations and in declamations.

The *second and third terms* the members of the senior class read essays or deliver original orations.

SOCIETY OF THE ALUMNI.

The annual alumni oration is delivered by a member of the society in Langdon Hall, on Alumni Day, Tuesday of Commencement week.

Thomas D. Samford, '88, Opelika, Ala	President.
R. F. Ligon, '82, Montgomery, Ala	Vice-President.
R. D. Webb, '97, Auburn, Ala	Secretary.
B. H. Crenshaw, '89, Auburn, Ala	Treasurer.
Alva Fitzpatrick, '80, Montgomery, Ala	Orator for 1905.

SURGEON.

The surgeon is required to be present at the college daily, to visit at their quarters the cadets that are reported sick, and to give all requisite medical attention without other charge than the regular surgeon's fee, paid on entering college.

ACADEMIC YEAR.

The academic year for 1905-1906 commences on Wednesday, 6th September, 1905, and ends on Wednesday, 6th June, 1906, which is Commencement Day.

It is divided into three terms. The first term extends from the opening of the session to Friday, December 22d; the second term begins Wednesday, January 3rd, and ends March 11th; the third term continues to the close of the session.

DONATIONS TO THE LIBRARY.

Carnegie Steel Co.—Useful Information Concerning Steel.

United States Government.—Annual Report American Historical Association for 1898-99-1900-01-02.

Japanese Commission at St. Louis.—Japan at Beginning of the Twentieth Century.

Dr. Petrie.—Abridgment of Debates of Congress, 1789-1856, 5 vols.

President Harper.—President's Report, Decennial Publication, (University of Chicago.)

Dr. Petrie.—Horseless Vehicles (Hiscock.)

Mrs. J. Long, Greenville, Ala.—Life of Frederick the Great, 6 volumes (Carlyle); Oliver Cromwell's Letters, 2 volumes (Carlyle); French Revolution, 2 volumes (Carlyle); J. Sterling and Latter Day Pamphlets, 1 volume (Carlyle); Critical and Miscellaneous Essays, 3 volumes (Carlyle).

World's Fair Commission.—The State of Missouri (W. Williams's edition.)

United States Government.—History of Library of Congress (W. D. Johnston.)

Dr. E. R. Lee, Bridgeport, Ala.—Life and Letters of William Cowper, 4 volumes (William Hayley.)

Thomas M. Owen.—Check List of Newspaper Files in Alabama State Department of Archives and History.

United States Government.—Smithsonian Institute Contribution to Knowledge, (Vol. 33.)

Roy D. Schuessler, Lafayette, Ala.—History of Hereford Cattle, (T. S. Miller.)

United States Government.—Public Documents (227 volumes.)

Herbert Baynes.—Idea of God and Moral Sense, (Herbert Baynes)

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VOL. 1 NO. 1

THE BULLETIN OF THE

ALABAMA POLYTECHNIC INSTITUTE

AUBURN

CATALOGUE
1905-6

ISSUED QUARTERLY
BY THE INSTITUTE
JUNE, 1906

APPLICATION MADE FOR ENTRY AT POST OFFICE, AUBURN, ALA., AS SECOND-CLASS MATTER

CALENDAR 1906-07.

Session Begins	Wednesday, Sept. 5, 1906.
Examination for Admission	Wednesday, Sept. 5, 1906.
First Term Begins	Wednesday, Sept. 5, 1906.
Mid-Term Examinations	Oct. 18-20, 1906.
Literary Society Celebration—Thanksgiving Day	Nov. 29, 1906.
First Term Ends	Friday, Dec. 21, 1906.
Second Term Begins	Wednesday, Jan. 2, 1907.
Mid-Term Examinations	Jan. 31-Feb. 2, 1907.
Literary Society Celebration	Friday, Feb. 22, 1907.
Senior Class Exercises	Friday, Feb. 22, 1907.
Second Term Ends	Saturday, March 9, 1907.
Third Term Begins	Sunday, March 10, 1907.
Mid-Term Examinations	April 11-13, 1907.
Senior Thesis Reported	Saturday, April 27, 1907.
Sophomore Class Exercises	Wednesday, May 1, 1907.
Field Day	Wednesday, May 1, 1907.
Final Examination Begins	Saturday, May 18, 1907.
Commencement Sermon	Sunday, June 2, 1907.
Annual Meeting of Trustees	Monday, June 3, 1907.
Military Exercises, 4 P. M.	Monday, June 3, 1907.
Junior Class Celebration, 8 P. M.	Monday, June 3, 1907.
Alumni Day	Tuesday, June 4, 1907.
Military Exercises, 5 P. M.	Tuesday, June 4, 1907.
Junior Class Celebration, 8 P. M.	Monday, June 3, 1907.
COMMENCEMENT DAY	Wednesday, June 5, 1907.

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OF THE
UNIVERSITY of ILLINOIS.

MAIN BUILDING
ALABAMA
POLYTECHNIC INSTITUTE.
J. Manz & Co. Eng. Chi.

LIBRARY
OF THE
UNIVERSITY OF ILLINOIS.

CATALOGUE

OF THE

ALABAMA POLYTECHNIC INSTITUTE

STATE COLLEGE

FOR THE

BENEFIT OF AGRICULTURE AND THE MECHANIC ARTS

AUBURN, ALABAMA

1906

MONTGOMERY, ALA.
BROWN PRINTING CO., PRINTERS AND BINDERS
1906

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1905-06

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ISAAC W. HILL, Superintendent of Education	*Ex-Officio.*

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N. D. Denson	LaFayette, Ala.
J. A. Bilbro	Gadsden, Ala.

TERM EXPIRES, 1911

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Wm. C. Davis	Jasper, Ala.
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TERM EXPIRES, 1915

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*John Harris Mitchell, M. S	Assistant Chemist.
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OFFICER IN CHARGE OF FARMERS' INSTITUTES.

Dr. C. A. Cary.

---

*Resigned.

The Institute is a distinctive school of Science, and its applications; being also the State College for the benefit of Agriculture and the Mechanic Arts, established by the State in 1872 by endowing it with the land-grant appropriation made by the United States Congress in 1862.

The leading object of the Institute, in conformity with the act of Congress and the acts of the State Legislature, is to teach the principles and applications of science.

In its course of instruction it gives prominence to the sciences and their applications, especially to those that relate to agriculture and the mechanic arts; and at the same time the discipline and liberal education obtained by the study of language and other sciences are not neglected.

All students are required to study the English language. The Latin, French and German languages are also taught. and opportunity for their study is offered to students in any course.

The special and technical instruction given is thus based on a sound, general education.

In its different courses of education, work of great value to the youth of the State is accomplished by fitting them by a thorough science-discipline, in which manual training in the lower classes is made a prominent feature, for the successful and honorable performance of the responsible duties of life.

While every attention is given to the mental discipline of the students in endeavoring to train them to habits of accurate scientific thought, and thus to qualify them for the duties of life, their moral and Christian training will always constitute the prominent care and thought of the Faculty. The Institute thus endeavors to educate as well as instruct, to form character as well as give information of value.

LABORATORIES AND FACILITIES FOR INSTRUCTION.

The Institute now possesses facilities for giving laboratory instruction in applied science in the following departments:

I. IN AGRICULTURE.

The farm contains 304 acres, and is supplied with illustrative specimens of stock of select varieties.

The agricultural experiment station, established in connection with the College, where experiments and scientific investigations relating to agriculture are daily made, affords unusual opportunities to students to become familiar with agriculture, its defects and remedies.

The students of agriculture accompany the professor in the field, garden, conservatory, stock-yard, etc., where lectures are delivered in the presence of the objects discussed, and during the year exercises in practical agriculture of an educational character are given the students who enter upon this course of study.

II. IN MECHANIC ARTS.

The instruction in shop work is used as an auxiliary in technical education, and as a school of manual training in the arts that constitute the foundation of most industrial pursuits. The work performed by the students is instructive in character, and is intended to give the greatest amount of instruction in principle with the least repetition of operations, and the smallest consumption of time. The work is executed from drawings, and the instructor in charge of the classes makes the lessons before the class, or gives such specific directions as may be necessary to enable the student to make it. This is supplemented by individual instruction.

All students in the sub-freshman, freshman, and sophomore classes take this shop work, three periods a week, each period being two hours long. The purpose is not to teach a trade, but to train the eye, the hand, and the mind to more perfect co-operation, a training which will be of value in any pursuit of life. This training involves the principles at the foundation of all trades, and is, therefore, of equal value to a student who wishes afterwards to learn a trade.

Three-phase electric motors are used for driving the different shops, the motors receiving current from the large alternator in the dynamo room. The wood department is located in a room 90x50 feet, and is provided with a surface planer, a variety saw, a swing cut-off saw, a boring machine, a grindstone. There are, in addition, thirty benches for carpentry work, with the necessary tools.

The wood turning and pattern shop is located in a commodious room 40x60 feet, in the second story of the new Power House. It is equipped with twenty-eight wood turning lathes, a grindstone, a band saw, a buzz planer, a pattern maker's lathe, a double circular saw, and a surface planer.

In each of these departments special tools for occasional use are kept in a tool room for the purpose.

In addition to the regular carpentry tools in the benches, each student is supplied with a set of chisels, and plane irons, with a locker to keep them in, and is held responsible for their care and condition.

The forge shop is equipped with twenty-four down draft forges, with anvils, hammers, sledges, and other tools necessary for blacksmith work, including a punch and shear for cutting and punching iron, and a blacksmith drill. The blast is supplied by a blower which is also used for supplying the foundry cupola with blast. The smoke from the forges is removed through underground passages by a 60-inch exhaust fan, and discharged into the chimney.

The foundry is equipped with a 23-inch Colliau cupola, having a melting capacity of 2,000 pounds of iron per hour, the necessary molding tools for bench and floor work, benches, a core oven, ladles, molding flasks, a foundry crane, etc. There is also a brass furnace with crucibles, crucible tongs and the appliances necessary for making brass castings.

The machine shop is a room 30x100 feet, and is equipped with nine 14-inch. two 16-inch, and one 18-inch engine lathes, one 10-inch speed lathe, a 20-inch drill press, a 10-inch sensitive drill, a 16-inch shaper, two iron planers, one 22-inch by 5-feet and the other 26-inch by 6-feet, a back geared universal milling machine with vertical milling attachment, a water tool grinder, a bench grinder, a universal grinding machine, a universal cutter and reamer grinder, a twist drill grinder, and a power hack saw. Three of the engine lathes have compound rests, three have taper attachments, and one is fitted with a turret and a large number of special tools and fixtures which practically convert it into a manufacturing lathe, and serve to illustrate the methods of manufacture by duplicate parts.

For chipping and filing, eighteen benches are fitted with vises and each student is supplied with hammer, chisels, files, and such other tools as he may need, and a locker in which to keep them. A gasoline engine is installed in one end of the shop, and is used for driving at times when the steam plant is not running.

The tool room is supplied with general machinist tools, such as chucks, drills, reamers, taps, dies, gauges, jigs, and special tools. A convenient room is supplied with lockers for keeping clothes, and basins supplied with hot and cold water for the use of the students. The different shops are equipped with electric lamps, and current is furnished when necessary.

III. IN PRACTICAL CHEMISTRY.

The chemical laboratory is supplied with modern apparatus, and in its equipment affords excellent facilities for instruction in practical chemistry and for investigation.

The investigations that are undertaken in this laboratory by scientific experts, in connection with the work of the agricultural experiment station, are of especial value to advanced students, and afford them unusual opportunities to learn the methods of scientific research.

The building contains a large general laboratory that accommodates sixty students, a special laboratory for seniors that will accommodate thirty students, a lecture room with a capacity for one hundred seats, and nine other rooms, all appropriated to instruction and research in chemistry.

IV. IN ELECTRICAL ENGINEERING.

The elementary electrical laboratories occupy three large rooms in the basement of the main building and are well equipped with instruments of precision. In addition to galvanometers, resistance boxes, condensers, dynamometers, wattmeters, photometers, the department is supplied with representatives of most of the types of commercial electrical instruments from foreign and domestic makers. Among other instruments may be noted a high potential testing set for insulation tests up to 30,000 volts, and spectroscopic apparatus for testing the quality of arc light carbons.

The advanced laboratory is situated in a separate building. This laboratory is furnished with a large number of direct current dynamos and motors of various types. The direct current machines range in size from 1 K. W. capacity to 25 K. W. and the alternating current machinery from 1 K. W. to 75 K. W., comprising a number of different types and makes of both classes of machinery. Power is supplied for the operation of this laboratory from three engines and a variable speed induction motor. In addition to the machinery installed in this laboratory the motors used for pumping and for driving the various shops are all available for testing purposes.

In addition to the laboratories the department has a repair and construction shop equipped with hand and machine tools, the latter being motor driven.

The telephone laboratory is at present in temporary quarters in the main building. It is equipped with complete cord circuit line and supervisory signals and two substations of Kellogg and Bell common battery systems, North System with cut in station, Common Battery Southern Mfg. Co. telephones, a variety of keys, jacks, relays, condensers. and storage batteries. The switchboard apparatus is mounted on tables so that connections may be readily made and traced out by students and the operations of the various parts can be taken up step by step.

V. IN PHYSICS.

The physical laboratory occupies two rooms, one of these being permanently darkened for experimental work in light.

It is equipped with numerous standard instruments of precision, such as verniers, micrometers, cathetometers, a horizontal comparator, a Kater's reversion pendulum, balances, etc., and a quantity of minor apparatus.

Recently there has been added a concave grating spectrograph, a large induction coil of 12-inch spark, and other apparatus of value.

VI. IN BOTANY AND BIOLOGY.

The laboratory for plant morphology and histology adjoins the lecture room of the professor, and is well equipped for investigation along these lines. The experimental work in plant physiology and pathology is conducted by the students in the laboratory and adjacent greenhouse, both of which are being rapidly equipped and altered to accommodate this important line of work.

A botanic garden is being developed, and it is the intention to add as rapidly as possible representatives of the native flora of this State, and a good collection of the native medicinal plants. In this manner it is planned to secure from the garden its maximum assistance in the work of instruction. Special work in plant breeding and biometry will also be conducted in this garden.

VII. IN ENGINEERING AND SURVEYING.

The necessary apparatus for field work, including transits, levels, plane table, models of bridges, etc., is provided for the use of students, and the customary exercises in the field are given.

VIII. IN DRAWING.

All students in the lower classes are required to take drawing, a study which tends to discipline the mind, as well as to train the eye and hand to accuracy of observation and execution. A large, well-lighted drawing room, which will accommodate fifty students, is provided, with tables, lock-boxes, etc.

IX. IN MECHANICAL ENGINEERING.

A very important adjunct to the text book work in the mechanical engineering course is the laboratory or experimental work that the students do during the senior year.

The equipment available for this instruction is as follows: A 35-horse power Cross compound engine, specially arranged for experimental work; a Wheeler surface condenser, and Worthington air pump and circulating pump; a 60-horse power Har-

risburg engine; a 25-horse power Harris-Corliss engine; a 20-horse power Atlas engine; a 100 horse-power Heine boiler; a Deane duplex steam pump, a 4½horse power gasoline engine; an Ericsson hot air engine; a New York air pump; a Westinghouse air pump; an Ingersoll-Sargent air compressor; an electric headlight engine, indicators, calorimeters, thermometers, a pyrometer, scales, steam gauges, and an apparatus for testing gauges.

For testing the strength of material, there is a 35,000-pound Riehle Bros. testing machine, arranged for making transverse, compression, and tension tests, and micrometer apparatus for measuring the deformation of a specimen under stress. There is also provided a cement-testing outfit consisting of a testing machine, sieves, briquette moulds and all necessary apparatus for testing the strength, fineness, and setting properties of cement. In addition to the above working apparatus, there are a number of sectional models of machines and appliances, and models of mechanical movements, all of which are extremely useful for the purposes of instruction.

X. IN MINING ENGINEERING AND METALLURGY.

A fully equipped laboratory has been established for work in determinative mineralogy. Ores of economic importance and rock-forming minerals are studied. Work tables to accommodate twenty-eight students are supplied with gas, water, reagents, blow pipes, and a standard set of measuring crystals.

The equipment also includes hand and reflecting goniometers for measuring crystal angles and petrographical microscopes for examination of minerals and rocks in thin sections.

The Metallurgical Laboratory is equipped in part with a jaw crusher, a roll crusher, a sampler, a model cyanide plant, assay furnace, and a chlorination plant.

There is a drawing room fitted up for instruction in mechanical drawing, making blue prints, maps, topographical drawings, tracings, and all drafting pertaining to mining operations.

XI. IN PHYSIOLOGY AND VETERINARY SCIENCE.

The veterinary department occupies a separate two-story building with nine rooms. It is provided with lecture room, office, working and operating rooms for clinical practice thoroughly equipped laboratories for work in bacteriology, milk and meat inspection, and museum with skeletons of the domestic animals for instruction. Free clinics are given every Saturday for the benefit of the students in veterinary science.

There is a separate dissecting room constructed, with cement floor and north roof light, especially for this department. This laboratory is used by the professor and students each afternoon for three months.

XII. IN PHARMACY.

The laboratory of this department occupies the second floor of the annex to the chemical laboratory, and is provided with a sufficient supply of drugs and apparatus necessary for instruction in pharmaceutical preparations. The equipment of the laboratory includes: a Laurent Polariscope; a Pulfrich refractometer; a vacuum distilling and drying apparatus, consisting of ½-horse power air pump, vacuum chamber, condenser, and Brühl receiver, a three-horse power electric motor, a receiver for fractional distillation under diminished pressure, a complete outfit for organic combustion work, two Brühl chemical balances.

The new Pharmaceutical Laboratory, on the basement floor of the Pharmaceutical building, is fitted with steam, and has a full equipment for research work in pharmaceutical chemistry.

The students work in the laboratory with the professor from five to eight hours, six days in the week.

The facilities are increased as means are available.

XIII. IN HORTICULTURE.

A plat of twenty acres is devoted to orchards, vegetables, fruits, flowers, and grapes. There is a well appointed greenhouse, fitted with modern apparatus for ventilation, heat, etc. Accurate experiments are conducted in this department in fruit growing and the culture of the various vegetables adapted to this climate. Students are given in this laboratory practical instruction in grafting, budding, spraying, fertilization, gathering and marketing crops. Valuable coöperative work with the United States Agricultural Department has been undertaken in this department.

MILITARY TACTICS.

Instruction in this department is given in conformity with the act of Congress. Students receive the benefit of regular military drill, and, in addition, the military system is used as a means of enforcing discipline and securing good order, promptness, and regularity in the performance of academic duties.

This department is supplied with cadet rifles and accoutrements for the corps.

COLLEGE BUILDINGS.

The frontispiece is a representation of the main College building. It is 160x71 feet, and contains forty-five rooms. This building is not used for dormitories for students, but is appropriated to purposes of instruction and investigation.

It contains the lecture rooms and offices of the professors, laboratories, library, museum, armory, etc.

LANGDON HALL.

This is a two-story building, 90x50 feet. The second story is the audience hall, used for commencement and other public occasions.

ELECTRICAL AND MECHANICAL LABORATORIES.

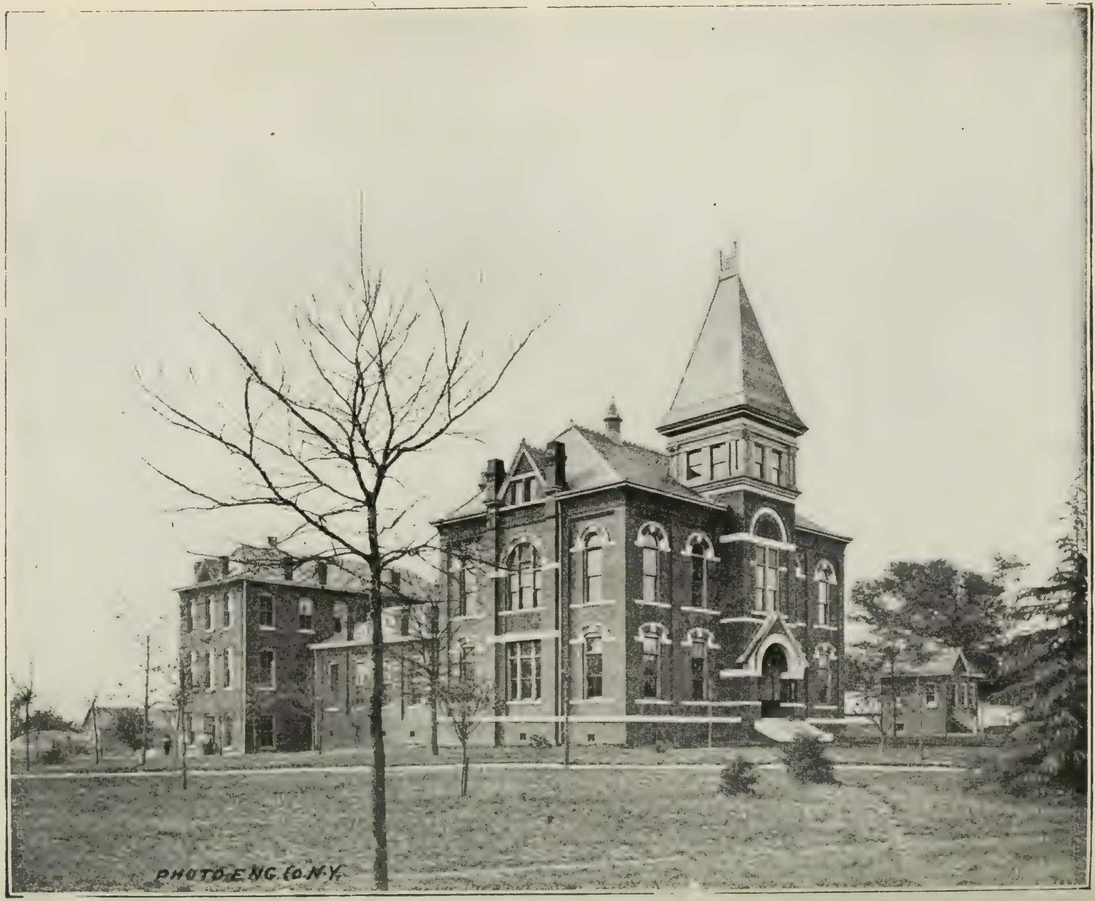
The first story of Langdon Hall is appropriated to the laboratory of first year wood work in mechanic arts.

The machine shop, forge shop, foundry, and boilers are installed each in separate buildings. A handsome new building, two-stories in height, pressed brick and stone trimmings, has been recently constructed for occupation by the power plant on the first floor and by the pattern making department on the second floor. The dynamo laboratory occupies a separate building.

THE CHEMICAL LABORATORY.

As shown on the opposite page, this is a two-story structure, 40x60 feet, with a rear projection, 35x60 feet, of one story and basement, and contains eight rooms. The exterior is of pressed bricks, with cut stone trimmings and terra cotta ornamentation.

In the basement are ample accommodations for assaying and storage.



CHEMICAL LABORATORY.

The main laboratory will accommodate sixty students and contains improved working tables, with water, gas and every necessary appliance for chemical work.

The laboratory for advanced work in chemistry will accommodate thirty students, and is equipped in the same manner. Adjoining this are two rooms which are used respectively as a balance room, and a room for work with spectroscope, polariscope, etc.

The second story contains a lecture room with seats and tablets for one hundred and twenty students. Around the lecture room are cases containing crude and manufactured products, illustrating agricultural and mechanical chemistry, prominent subjects taught in the institution.

ANNEX TO CHEMICAL LABORATORY.

This is a three-story brick building, containing rooms for pharmacy, mechanical engineering, and drawing.

The Chemical Laboratory for the Agricultural Experiment Station occupies a building 60x26 feet, and is appropriated exclusively for chemical investigation and research, and not for instruction.

GRADUATES IN 1905

CLASS OF 1905

HONORS.

Members of the senior class who attain distinction with a grade of 95 per cent. are Graduates with Highest Honor. Those who attain a distinction with a grade of 90 per cent. and less than 95, are Graduates with Honor. Those who attain less than 90 per cent. and more than 60 per cent. are Graduates.

DEGREES.

BACHELOR OF SCIENCE.

GRADUATES.

Eric Alsobrook	Chambers.
Malcolm Bell	Georgia.
Harvey Emory Bennett	Lee.
Thomas Cobb Bradford	Lee.
James Austin Buchan	Pike.
Edward Harman Cabaniss	Jefferson.
Joel Philip Carter	Pike.
William Brasher Clayton	Barbour.
Obie Boland Cooper	Marshall.
Edgar Ervin Esslinger	Madison.
Josiah Flournoy	Georgia.
Kess Lawson Forrester	Houston.
Miller William Francis	Coosa.
Leonard Graham Gresham	Autauga.
Morris Abram Hartz	Georgia.
Clifford Hasting Johnson	Georgia.
Joseph Cabot Kellett	Marshall.
John Howard McEniry	Jefferson.
Louis Walton Montgomery	Lee.
James Bruce Mosely, Jr	South Carolina.

Clarence LaFayette Mullin	Lee.
Cicero Louis Nelson	Baldwin.
John Haygood Paterson	Montgomery.
Henry Clarence Perkins	Barbour.
Burke Benjamin Philips	St. Clair.
Lawrens Walter Pierce	Elmore.
George Wallace Postell	Jefferson.
Forney Renfro	Lee.
Randolph Smith Reynolds	Calhoun.
Charles Claude Rigney	Madison.
James Harrison Scheussler	Chambers.
Linwood Seale	Sumter.
George Burton Skinner	Marengo.
John Edward Thigpen	Lowndes.
Charles Spurgeon Waldrop	Jefferson.
David Gaston Wilkinson	Wilcox.
Robert Hammett Witherspoon	South Carolina.
Oliver Earle Young	Sumter.

GRADUATES WITH HONOR.

Fred Rudolph Bell	Lee.
John Vernon Denson	Chambers.
Alice Brown Frazer	Mobile
Samuel Luther Gipson	DeKalb.
May Persis Harvey	Lee.
Richard McCall McCulloh, Jr	Louisiana.
Enoch Lester Miller	Marshall.
Walter Robert Samford	Lee.
Henry Howard Thornton	Talladega.

GRADUATES WITH HIGHEST HONOR.

Robert Platt Boyd	Montgomery.
Ralph Dudley	Georgia.
Devotie Glover Ewing	Lowndes.
Earl Eugene Jenks	Mobile.

POST GRADUATE DEGREE.

MASTER OF SCIENCE.

Leonard Park Hall	Jefferson.
George Bell Hazard	Calhoun.
Mollie Hal Hollifield	Lee.
Cassius Rex Hudson	Lee.
Allen Green Jones	Dallas.
James Leonidas Murphy	Conecuh.
Berner Leigh Shi	Georgia.
William Bee Stokes	Marion.
Edmund Rhett Taber	Montgomery.
Albert Lee Thomas	Lee.

PROFESSIONAL DEGREE.

MECHANICAL ENGINEER.

William Welch Hill	Talladega.

ENGINEER OF MINES.

Frank Greene Morris	Walker.

DISTINGUISHED STUDENTS

DISTINCTIONS.

Students who receive a grade above 90 per cent. and less than 95 in three studies in the freshman class, in four in the sophomore class, in five in the junior, and in six in the senior, are distinguished for excellence in scholarship, and are awarded certificates of Distinction. Those who receive a grade above 95 per cent. are awarded Certificates of Highest Distinction.

FRESHMAN CLASS.

DISTINCTION.

Henry Winfield Allen	Marengo.
Emmett Eason Binford	Lee.
Clarence Winston Cooper	Calhoun.
Frank C. Daffin	Florida
Macon Carmichael Ellis	Dallas.
Charles Edward Fort, Jr.	Dallas.
Moses Frank	Montgomery.
George Henry Marsh	Pike.
Wallace Bruce Paterson	Montgomery.
Herbert Davis Posey	Jefferson.
Francis Minor Shepard	Mobile.
James Lister Skinner	Lee.
Olin Conway Skinner	Lee.
Sidney Harvey Winslow	Morgan.
Grannville Allen Young	Montgomery.

HIGHEST DISTINCTION.

Samuel Cellner Dreyfus	Montgomery.
Roy Henderson Liddell	Wilcox.

SOPHOMORE CLASS.

DISTINCTION.

Byron Breckinridge Barnes	Marengo.
Newton Albert Burgess	Cleburne.
Edward Tarleton Collier	Montgomery.
Marion Brooks Davis	Geneva.
Edwin Alexander Harriss	Georgia.
Mary Meriwether Harvey	Bibb.
George Griffin Hughes	Marion.
Eugene Stewart Pace	Calhoun.
William Lewis Perdue	Butler.
Charles Solomon Ripley	Georgia.
James Douglas Sample	Talladega.
Penrose Vass Stout	Montgomery.
Ernest Wood Thornton	Talladega.
Evans Beauchamp Wood	Pike.
James Alto York	Dale.

HIGHEST DISTINCTION.

Charles Mell Hudson	Lee.
Norman Burns McLoed	Clarke.

SPECIAL STUDENTS.

DISTINCTION.

William Sylvester Bailey	Tennessee.
Gilder Lemuel Payne	Jefferson.
Helen Tracy Parsons	Kansas

JUNIOR CLASS.

DISTINCTION.

Henry Madison Averyt	Lee.
Modesta Francis Beasley	Lee.
James Robertson Black	Lee.
Casper Carl Certain	Madison.
Charles Abiatha Dean	Lee.
Clayton St. John Hale	Mobile

Ethel Harrell	Lee.
Shaffer Hood	Tallapoosa.
Claud Stewart McNeely	Tallapoosa.
Frederick Henry Mohns	Jefferson.
James Marion Poyner	Dale.
Thomas Byron Richardson	Marshall.

HIGHEST DISTINCTION.

Frederick Emanuel Geibel	Montgomery.
Henry Gaston Mitchel	Tennessee.

COMMENCEMENT ADDRESS.

Ira Remsen, LL. D., President Johns Hopkins University.

CATALOGUE OF STUDENTS

FOR SESSION 1905-1906

Graduate Students.

Robert Evan Allison	Sumter.
Franklin King Beck	Wilcox.
Robert Platt Boyd	Lee.
Obie Boland Cooper	Marshall.
Emma Beall Culver	Lee.
John Vernon Denson	Chambers.
Luther Noble Duncan	Lee.
Devotie Glover Ewing	Lowndes.
Miller William Francis	Coosa.
May Persis Harvey	Lee.
Joseph Cabot Kellett	Marshall.
Isham Kimbell	Clarke.
John Howard McEniry	Jefferson.
Enoch Lester Miller	Marshall.
William Pitt Moon	Coosa.
James Paterson	Montgomery.
John Haygood Paterson	Montgomery.
Henry Clarence Perkins	Barbour.
Francis Esten Purifoy	Wilcox.
Walter Robert Samford	Lee.
George Burton Skinner	Marengo.
Charles Spurgeon Waldrop	Jefferson.

SENIORS.

Otis DeWit Alsobrook	Chambers.
Philip Holcombe Avary	Lee.
Henry Madison Averyt	Lee.
William Sylvester Bailey	Tennessee.
Modesta Francis Beasley	Lee.
Sidney Morris Bernheim	Jefferson.

Shirley Houston Betts	Texas.
James Robertson Black	Lee.
Edmund Cason Bunker	Houston.
Sylvanus Leonidas Burney	Chambers.
Charles Taylor Butler	Madison.
Casper Carl Certain	Madison.
Willard Cooper	Georgia.
Ernest Percival Davis	Florida.
Charles Abiatha Dean	Lee.
Nimrod Davis Denson, Jr.	Chambers.
Thomas Lewis Dickson	Lee.
Samuel Burwell Fort	Dallas.
William Humphrey Foy	Barbour.
James Clark Francis	Coosa.
Mell Alexander Frazer	Mobile.
Frederick Emanuel Geibel	Montgomery.
Minos Edward Gibbs	Jefferson.
Lynwood William Gray	Calhoun.
DuPont Guerry, Jr.	Georgia.
Hugh Scott Hagood	Conecuh.
Clayton St. John Hale	Mobile.
Lyman Compton Hall	Talladega.
Ethel de Vere Harrell	Lee.
Preston Brooks Harrell, Jr.	Dallas.
Frank Hertz	Georgia.
George Estes Hicks	Talladega.
Gilbert Russell Hollinger	Wilcox.
Shaffer Hood	Tallapoosa.
Frank Parkinson Howard	Macon.
Cincinnatus Decatur Killebrew	Dale.
William Leonard Lette	Lee.
William Madison Lewallen	Jackson.
Charles Felton Little	Lee.
Arthur Logue	Wilcox.
Sidney Long	Butler.
William James McBride	Morgan.
Hugh Francis McElderry	Talladega.
Claud Stewart McNeely	Tallapoosa.
Hinton Alfred Middleton	Chambers.
John Augustus Miller	Calhoun.
Henry Gaston Mitchel	Tennessee.

William LeRoy Mitchell	Lee.
Frederick Henry Mohns	Jefferson.
Edward Preston Murphy	Butler.
Walter Werle Peagler	Butler.
Henry Petersen	Jefferson.
Martin Alexander Pool	Georgia.
James Marion Poyner	Dale.
Noah Parker Renfro, Jr.	Lee.
Thomas Byron Richardson	Marshall.
Angel Esteban Sanchez	Nicaragua.
Batt Lockard Spain	Mobile.
Mabry Thomas Stallworth	Conecuh.
Clifford Anthony Marion Weber	Jefferson.
William Thomas White	Hale.

JUNIORS.

John Davidson Alexander	Marengo.
Byron Breckinridge Barnes	Greene.
Milton Stanhope Brasfield	Marengo.
George Marvin Brinson	Montgomery.
William Franklin Brooks	Montgomery.
Newton Albert Burgess	Cleburne.
Max Starkloff Burkett	Mobile.
Benjamin O'Connor Childs	Georgia.
Willie Elvie Chumley	DeKalb.
John Bayard Clark	Marion.
George Washington Coker	Elmore.
Edward Tarleton Collier	Montgomery.
Manly Allen Collins	Hale.
Elva Leland Cooper	Lee.
Charles Van Wormer Cornell	Lee.
Julian Jarnigan Culver	Lee.
Frederick Curtis	Escambia.
Marion Brooks Davis	Geneva.
John Cameron Dow	Barbour.
Richard Hodges Drake	Lee.
Frederick Roy Duncan	Georgia.
Dexter Edge	Georgia.
Arthur Davis Ellsberry	Elmore.
James Esdale, Jr.	Jefferson.

Walter Scott Farley	Lee.
John Locke Gaston	Wilcox.
George Jasper Golden	Georgia.
Richard Childs Gowdey	Sumter.
Edgar Daniel Greene	Chambers.
William Hardie, Jr.	Jefferson.
Elward Alexander Harriss	Georgia.
Mary Meriwether Harvey	Bibb.
Ambrose Harwell	Lee.
Charles Robert Hixon	Bullock.
Henry Purser Hodges	St. Clair.
William Robert Holley	Henry.
Charles Mell Hudson	Lee.
George Griffin Hughes	Marion.
Thomas Alexander Johnston	Mobile.
Frank Dansby King	Montgomery.
Emma Lena Kirby	DeKalb.
William Morris Lacey	Jefferson.
Mimms William Lee	Wilcox.
Guy Fleming Lipscomb	Marengo.
Herbert Dent Long	Barbour.
William Gaston Martin	Lee.
Edward Francis McCrossin	Jefferson.
Norman Burns McLeod	Clarke.
Walter Winston McMichael	Georgia.
Foster William Mellon	Calhoun.
Alfred Holley Mitchell	Lee.
Roy Palmer Mitchell	Lee.
Thomas Byrd Mobley	Mississippi.
Cecil Gause Moore	Montgomery.
Earle Moore	St. Clair.
Eugene Clift Morgan	Jefferson.
Thomas Gustave Mundy	Greene.
George Feagin Orum	Bullock.
Eugene Stewart Pace	Calhoun.
James Madison Page	Jefferson.
George Houston Palmer	Lee.
William Lewis Perdue	Butler.
Bernice Eugene Prather	Lee.
Clifford Bartlett Richardson	Colbert.
Charles Solomon Ripley	Georgia.

Thurman Harold Robertson	Dallas.
Claud Jonathan Rogers	Jefferson.
Mary Susan Samford	Lee.
James Douglas Sample	Talladega.
John Pickens Scarbrough	Calhoun.
Thomas Lee Selman	Lee.
Samuel Robert Shi	Georgia.
Lynn Thomas Shook	Jackson.
Edward Hunter Smith	Macon.
Melville Sommer	Jefferson.
Roscoe Owen Stephenson	Walker.
Clarence Buttan Stillman	Jefferson.
Penrose Vass Stout	Montgomery.
Rieneir Joseph Swart, Jr.	Louisiana.
Fletcher Jackson Thagard	Butler.
Ernest Wood Thornton	Talladega.
James Ernest Threadgill	Marengo.
Samuel Augustus Threadgill	Marengo.
William Stewart Ticknor	Lee.
Adie Goggins Walker	Coosa.
Dessie Chlorine Ward	Lee.
William Paul Watkins	South Carolina.
Thomas Van Zandt Watson	Georgia.
Frank Lazenby Watt	Butler.
Robin Monroe Webb	Jefferson.
LeRoy George Weber	Jefferson.
Henry Brant Whitaker	Georgia.
Henry Tompkins White	Colbert.
Daniel Elmer Wilkinson	Covington.
Ralph Chester Williams	Russell.
Thomas McCotry Williams	Lowndes.
Evans Beauchamp Wood	Pike.
Edmund Augustus Wright	Tennessee.
Homer Waller Wright	Lee.
James Alto York	Dale.

SOPHOMORES.

Robert Gayle Adams	Clarke.
Henry Winfield Allen	Marengo.
Frank Sterling Baggett	Jefferson.

Nicholas Lawrence Baker	Lee.
Stephens Radford Batson	Jefferson.
Emmett Eason Binford	Lee.
Ralph Upshaw Blasingame	Lee.
Maurice Bloch	Dallas.
Henry Hutchison Booth	Montgomery.
Louis Cecil Boykin	Lee.
George Edwin Bradford	Lee.
David Sterra Browder	Montgomery.
George Ernest Brown	Jefferson.
Orrin Brown, Jr.	Lee.
Harry Lockwood Budd	Baldwin.
David King Caldwell	Jackson.
Eugene Vernon Camp	Georgia.
Charles Leonard Chambers	Jefferson.
Littleberry Calhoun Collins	Hale.
Lester Brandly Converse	Dallas.
George McCown Cook	Lee.
Clarence Winston Cooper	Calhoun.
John Thomas Cooper, Jr.	Georgia.
Millard Martin Cowden	Blount.
J. D. Curtis, Jr.	Escambia.
Matthew Livingston Davis	Mobile.
Edward Sentle DeShazo	Shelby.
Jesse Dixon	Escambia.
William John Patrick Donaldson	Georgia.
Jasper Newton Downs	Jefferson.
Samuel Cellner Dreyfus	Montgomery.
John Franklin Duncan	Marion.
Macon Carmichael Ellis	Dallas.
Samuel Arrington Ellsberry	Montgomery.
William Edward Ellsberry, Jr.	Elmore.
Jacie Lee Esslinger	Madison.
Charles Edward Fort, Jr.	Dallas.
Moses Frank	Montgomery.
Dewitt Gibson	Jefferson.
John Randall Goldthwaite	Pike.
Alexander Smith Gossett	Georgia.
Stuart Leland Greene	Mobile.
Herman Grimes	Wilcox.
John Ephriam Harrison	Florida.

Andrew Johnston Hawkins	Jefferson.
Benjamin Allston Heyward	Georgia.
Armstrong Hill	Talladega.
Robert Edward Hodnette	Macon.
Allen Glover Holder	Clarke.
Clyde McNeel Howard	Autauga.
William E. Hudmon, Jr.	Lee.
Hendon Huey	Jefferson.
Frank Jarrett	Jefferson,
Leo Kling	Mobile.
John Gill Knox	Calhoun.
Robert Augustus Lee, Jr.	Butler.
Roy Henderson Liddell	Wilcox.
James Samuel Lyell	Mississippi.
Henry Churchill Marks	Montgomery.
George Henry Marsh	Pike.
Daniel McDonald	Jefferson.
Asa Smith John McKissick	South Carolina.
Horace Lamar McWhorter	DeKalb.
Robert Stewart McWhorter, Jr.	Lowndes.
Daniel John Meador, Jr.	Marengo.
Edward Robert Mellon	Calhoun.
Frederick Augustus Miller	Covington.
Chalmers Hale Moore	Jefferson.
John Thomas Moore, Jr.	Georgia.
James Augustus Morgan	Cleburne.
William Thomas Owen	Calhoun.
Carl Dozier Pace	Calhoun.
Thomas Wilber Park	Georgia.
Edwin Steele Partridge	Mobile.
Wallace Bruce Paterson	Montgomery.
Robert Trent Pearce	Chambers.
Daniel Francis Petty	Mobile.
Charles Terrell Porter	Talladega.
Herbert Davis Posey	Jefferson.
Orman Nimmons Powell	Georgia.
Charles Wesley Price	Morgan.
Grover Cleveland Prowell	Marengo.
Obie Riddle	Coosa.
Alexander Mitchell Rodgers	Georgia.
Albert Price Rogers	Marengo.

John Routledge	Jefferson.
Herman Herbert Schomburg	Georgia.
Philander Pearsall Scroggs	Georgia.
Norman Joseph Searcy	Butler.
Anderson Cleveland Sellers	Montgomery.
Francis Minor Shepard	Mobile.
Alvin Travis Simmons	Monroe.
Bennett Thomas Simms	Sumter.
Frank Bean Skeggs	Morgan.
James Lister Skinner	Lee.
Olin Conway Skinner	Lee.
Kirby Smith	Etowah.
Lester Chauncey Smith	Montgomery.
Pickett Chauncey Smith	Montgomery.
Sydney Hugh Smith	Jefferson.
James Gardner Somerville	Pickens.
Foster Webb Stanley	Butler.
James Thomas Steele	Marengo.
George Jefferson Street	Clay.
John Logan Strock	Chilton.
Francis Eugene Tompkins	Lee.
William Conyers Thompson	Lee.
Jacob Allen Walker	Tallapoosa.
Grover Cleveland Walker	Coosa.
Robert Young Ware	Jefferson.
John James Weatherly	Calhoun.
Bernard Augustus Webb	Montgomery.
Oroon Datus Whitaker	Lee.
William Edgar White	Lee.
Ira Edwin Wilks	Crenshaw.
Julian Eugene Williams	Sumter.
Sidney Harvey Winslow	Morgan.
Samuel Wolff	Montgomery.
Charles Williamson Woodruff	Jefferson.

FRESHMEN.

Percy Crump Anders	Tuscaloosa.
James Hunter Batchelor	Houston.
Thomas Beasley	Lee.
George Shields Bishop	Colbert.

Lawton Lee Blanton	Lee.
William Guy Byars	Walker.
Austin Franklin Jefferson Boyd	Sumter.
Arthur Montgomery Brown	Jefferson.
Richard Alva Burleson	Morgan.
Samuel Welch Caldwell	Shelby.
William Julian Carter	Marengo.
Edward Douglass Catts	Dallas.
Merrit DeWitt Clements	Limestone.
Abram Crum Cook	Wilcox.
John Cook	Walker.
William Terry Cooper	Etowah.
Holland Eugene Cox	Jefferson.
Roy R. Cox	Pickens.
David Clyde Craker	Jefferson.
Harry George Culverhouse	Jefferson.
Grover Cleveland Davis	Calhoun.
Charles Jefferson Davis, Jr.	Florida.
William Dennis	Pike.
Frazier Michael Douglas	Tallapoosa.
Silas Alexander Dowdell	Texas.
William Cobb Dozier	Perry.
Frank Irvin Eatman	Greene.
Joseph Littleton Edwards	Dallas.
Robert Brooke Ellyson	Mobile.
Henry Herman Epping, Jr.	Georgia.
Hubert Frederick Everett	Georgia.
Robert Edward Farley	Jefferson.
Calvin William Fenn, Jr.	Barbour.
Lucien Brown Forbes	Jefferson.
John Treatlen Foy	Barbour.
Clarence Edward Francis	Tallapoosa.
William Jackson Garnett	Morgan.
Grady Pursell Gilbert	Barbour.
Moe Baruchoff Gottlieb	Macon.
James Gray Hanlin	Colbert.
Benjamin Edward Harris	Jefferson.
George Leach Harris, Jr.	Montgomery.
Halton Garside Harris	Montgomery.
Elmer Arthur Haynie	Lee.
Walter Judson Heacock	Talladega.

Otis Lendon Helm	Jefferson.
James Lane Henderson	Calhoun.
Daniel Herren	Elmore.
James Bradley Holman	Wilcox.
Amos Davis Howle	Calhoun.
Lewis Henry Hubbard	Montgomery.
John Noble Huger	Calhoun.
Daniel Streeter Hull	Georgia.
Frederick Burnard Ingram	Blount.
William Lemuel Ingram	Russell.
Hugh Lawhon	Dallas.
Vandiver Lazenby	Butler.
Rex Wallace LeFebree	Etowah.
Walton Norwood Glover Legare	Greene.
Robert Cleveland Lovvorn	Randolph.
Isaac Marks	Jefferson
Leon Morgan Martin	Talladega.
Floyd Estill Mason	Tennessee.
Oscar Dumas May	Tennessee.
Clyde Fuller McLendon	Montgomery.
George Tinsley McElderry	Talladega.
Roger Barton McWhorter	Colbert.
Thomas Cole Mitchell	Georgia.
Benjamin Homer Moon	Clay.
James Walter Motley	Tallapoosa.
Robert Duff Murray	South Carolina.
Quinton James Neighbors	Lee.
Harry Neill	Jefferson.
Louis Ethelbert Otts	Hale.
William Henry Pace	Lee.
James West Parker	Morgan.
Julius Trimble Pearson	Montgomery.
Charles Francis Pekor, Jr.	Georgia.
George Washington Penton	Coosa.
Roy Edward Perkins	Jefferson.
Josiah Whittaker Powell	Lowndes.
Osie Clyde Prather	Lee.
Roswell Hine Richardson, Jr.	Limestone.
Schuyler Harris Richardson	Limestone.
Andrew Jackson Roddy	Jefferson.

William Lewis Roney	Montgomery.
August Routledge	Jefferson.
Henry Thomas Rutland	Lee.
Jesse Blake Rutland	Lee,
William Clarke Sargent	Calhoun.
Grover Cleveland Sheffield	Wilcox.
Edward Palmer Simpson	Georgia.
Joseph Bradford Simpson, Jr.	Jefferson.
Asa Herman Skinner	Marengo.
Bruner Jones Smith	Lauderdale.
Carlton Smith	Jefferson.
Warren Floyd Smith	Shelby.
John Paul Starr	Wilcox.
Samuel Ernest Starr	Wilcox.
John Bowie Steadham	Lee.
James Grey Stelzenmuller	Baldwin.
George Howard Stewart	Mississippi.
Frederick Taylor Stimpson	Mobile.
Gordon Gillespie Stimpson	Mobile.
Laurel Frank Summers	Dallas.
William Brock Taber	Montgomery.
George Washington Taylor	Choctaw.
Samuel Judd Torbett	Georgia.
Frederick Tustin Van Duzer	Georgia.
Leo Malone Warten	Limestone.
George Clifford Waterhouse	Tennessee.
James Mortimer Weems	Bullock.
Millard Ames Westcott	Lee.
Van Buren Whatley	Tallapoosa.
Samuel Oliver White	Tallapoosa.
Ernest Groce Wilson	Talladega.
Alvin William Winzerling	British Honduras.
George Hogan Woodall	Jefferson.
Walter Woolf Wynne	Marengo.
Robert Abernathy Young	Montgomery.

SUB-FRESHMEN.

Croft Able	Covington.
Grover Able	Covington.
Haskel Guy Able	Crenshaw.

Norwood Anderson	Lee.
Howard Bemis	Walker.
John Fletcher Conner Bishop	Barbour.
Ridgeway Smith Boyd	Coffee.
Michael John Bulger	Tallapoosa.
Charles Garden Burnett	Barbour.
Theodore Wesley Calvin	Limestone.
Ralph Carlisle	Jefferson.
Frank Ward Cayce	Mobile.
Samuel Christie	Talladega.
Dudley Murfee Clements	Lee.
Gorman Cook	Talladega.
James Paul Corgill	Marengo.
Edward Henry Cosper	Colbert.
Charles Hansford Cowart	Covington.
Homer Mercer Crossett	Shelby.
Andrew Daffron	Tuscaloosa.
Pius Martin Davis	Walker.
James Grover Davis	Walker.
William Madison Dean	Tallapoosa.
William Clement Downey	Marengo.
Jerry Liter Echols	Etowah.
George Philip Edwards	Lee.
George Wilkins Erwin	Hale.
Thomas Hamilton Esslinger	Madison.
William Thomas Ewing	Covington.
Homer Quitman Gantt	Covington.
Abram Washington Gilmer	Choctaw.
Charles Cecil Griffith	Montgomery.
Augustus Moore Hall	Baldwin.
William Augustus Harman	Georgia.
Walter Henry Harrell	Blount.
William Peyton Harris	Wilcox.
Forrest Revell Harsh	Jefferson.
Cherry Lafayette Hendrix	Montgomery.
George William Hogshead	Montgomery.
Joseph Hodge	Talladega.
Peyton Burford Hollinger	Wilcox.
Edward Tracey Hollingsworth	Etowah.
Lewis Hoffman Houston	Morgan.
Evans Johnston	Jefferson.

John Delino Kearley	Monroe.
William Virgil Kirkpatrick	Jefferson.
Walter Herbert Lee	Pike.
Franklin Pearce Lindsey	Georgia.
Juan Martinez	Cuba.
Joseph Ray McCleskey	Marshall.
Joel Thadeus McLemore	Greene.
Alexander Montenegro	Nicaragua.
Corry James Morris	Clay.
Jeffery Early Morris	Jefferson.
Daniel Baker Nabors	Coosa.
James Searcy Naylor	Mobile.
William Elbert Pearce, Jr.	Sumter.
James Lee Pennington	Covington.
Sherron Lelan Pounders	Franklin.
William Smith Reeder	Lauderdale.
Charles Francis Russell	Talladega.
Frederick Oscar Sherrill	Morgan.
John Smith	Jefferson.
John Morris Spearman	Walker.
Alexander H. Stephens	Cullman.
Henry Lewis Stone	Montgomery.
George Daniel Strock	Chilton.
Percy Hainton Sumner	Jefferson.
Augustus Tatum	Montgomery.
Charles Thomas Tompkins	Colbert.
Arthur Pleasant Thompson	Calhoun.
William Dorman Tucker	Perry.
Gilbert George Warren	Barbour.
James Cleveland Webb	Calhoun.
Henry Havington Wilson	Covington.
Dee Cortez Wood	Jefferson.
Benton Sanders Woodroof	Limestone.
Almond Gaines Wyatt	Tallapoosa.
Henry Ashby Wynne	Marengo.

SPECIALS.

Frederick Bailey	Dallas.
William Rufus King Beck	Wilcox.
Mrs. Walter Henry Blome	Lee.
John Henry Booker, Jr.	Georgia.

William Calvin Boyd	Sumter.
Augustus Kirby Clements	Lowndes.
William Isaac Cole	Jefferson.
Charles Freeman Cooper	Calhoun.
Clarence Edward Cowan	Clarke.
Alexander Brooking Davis	Jefferson.
Ovid Raymond Eatman	Greene.
Daniel Vester Edmundson	Jefferson.
Prentiss Stillwell Edwards	Georgia.
James Franklin Ellis	Georgia.
George Hardaway Frazer	Lee.
James Gillis Gauntt	Tallapoosa.
Cecil Gilchrist	Lowndes.
Robert James Gillespie	Marengo.
Elliott Coke Gilmore	South Carolina.
Albert Ringo Gresham	Autauga.
Juan Ygnacio Gonzalez	Nicaragua.
Seymour Hall	Covington.
Robert Irvin Hamilton	Talladega.
William Quinney Harris	Clarke.
John Boykin Heyward, Jr.	Georgia.
Harry Cleveland Hillhouse	Jefferson.
Moss Bond Holtsford	Lauderdale.
Frank Lloyd Hudson	Georgia.
John David Hudson	Lee.
Percy Wilbur Hudson	Lee.
Isham Smith Ingram	Russell.
Clyde White Jones	Bibb.
Frank Jones	Jefferson.
Feaster Ithamar Jones	South Carolina.
Herschel Victor Killebrew	Georgia.
Edward Philip Lacey	Jefferson.
Orville Lay	Etowah.
Elliott Walker Lewis	Calhoun.
Thomas William Lloyd	Jefferson.
Langford John Locke	Mobile.
Hunter Lette McDuffie	Monroe.
Wilkes Coleman McLemore	Greene.
Ray Meade	Jefferson.
John Campbell Neill	Jefferson.
Harris Claude Neil	Georgia.

Robert Parkin	Jefferson.
George Washington Papot	Jefferson.
Marion Curtis Parmer	Lowndes.
Robert Miller Patton	Lauderdale.
James Narcisus Pickett	Bullock.
Paul Pool	Jefferson.
Cleveland Jackson Price	Barbour.
Jose Ygnacio Rodriguez	Cuba.
Erneste Rouse	Calhoun.
Frank Bellamy Rutledge	Lee.
Frank Carter Sinback	Mobile.
Richard Walpole Sistrunk	Montgomery.
Alexander Solomon	Montgomery.
Thomas Whit Sparks	Walker.
Paul Clinton Sorsby	Jefferson.
Benjamin Milton Spielberger	Colbert.
Royden Keith Stanley	Georgia.
Shade Stewart	Covington.
William Charles Streit	Jefferson.
Paul Lee Taylor	Jefferson.
Orlander Cleveland Tisdale	Conecuh.
James M. Todd	Morgan.
Edgar Brewster Van Keuren	Jefferson.
William Lay Vaughan	Sumter.
Samuel Carter Weems	Bullock.
Mary Kate Wills	Lee.
Carlton Adams Wilmore	Indiana.
Samuel T. Whitaker	Lee.
William Church Whitner	Florida.
Louson Mouson Whitten	Florida.
Frank Sidney Wise	Morgan.
Robert Ray Wright	Bibb.
Laureano Zelaya	Nicaragua.

SUMMARY.

Graduate Students	22
Senior Class	61
Junior Class	100
Sophomore Class	119

Freshman Class	120
Special and Irregular Students	79
Total in College Classes	501
Sub-Freshman Class	78
Total	579

NUMBER OF STUDENTS IN EACH SUBJECT OF STUDY.

English	508	Horticulture	19
History	341	Geology	50
French	26	Civil Engineering	37
German	46	Electrical Engineering	86
Latin	113	Mechanical Engineering	83
Mental Science	13	Mining Engineering	27
Political Economy	49	Drawing	447
Mathematics	500	Mechanic Arts	403
Chemistry	232	Military Department	517
Chemical Laboratory	190	Mineralogy	32
Agriculture	132	Physiology	137
Physics	364	Veterinary Science	28
Physical Laboratory	88	Pharmacy	37
Botany	67	Bacteriology	8

RESIDENCE BY STATES.

Alabama	506
Georgia	42
Florida	6
South Carolina	5
Tennessee	6
Mississippi	3
Louisiana	1
Texas	2
British Honduras	1
Nicaragua	4
Cuba	2
Indiana	1
Total	579

MILITARY ORGANIZATION

FOR SESSION 1905-1906.

President,

CHARLES COLEMAN THACH.

Commandant,

COL. BENJAMIN S. PATRICK.

Surgeon,

J. H. DRAKE.

Battalion Staff,

Cadet Captain W. H. Foy, Adjutant.
Cadet Captain C. A. Dean, Quartermaster.
Cadet Sergeant N. B. McLeod, Sergeant Major.
Cadet Sergeant E. W. Thornton, Quartermaster Sergeant.

Cadet Captains,

1. F. H. Mohns.
2 C. S. McNeely, (Band).
3. J. R. Black.
4. M. A. Frazer.
5. C. C. Certain.

Cadet First Lieutenants,

1. H. Petersen.
2. J. M. Poyner.
3. H. M. Averyt.
4. H. G. Mitchel.
5. S. Hood.
6. G. R. Hollinger.
7. C. D. Killebrew.

Cadet Second Lieutenants,

1. P. H. Avary.
2. W. L. Mitchell.
3. T. B. Richardson.

Cadet First Sergeants,

1. E. B Wood.
2. E. A. Wright.
3. C. M. Hudson.
4. G. J. Lipscomb.

Cadet Sergeants.

1. W. M. Lacey.
2. W. Hardie.
3. D. E. Wilkinson.
4. W. L. Perdue.
5. S. R. Shi, (Color Sergeant)
6. P. V. Stout.
7. W. S. Farley.
8. L. T. Shook.
9. J. A. York.
10. G. G. Hughes.
11. F. J. Thagard.
12. B. O. Childs.
13. E. H. C. Smith.
14. R. H. Drake.
15. C. S. Ripley.
16. N. A. Burgess.
17. E. A. Harriss.
18. E. S. Pace.

Cadet Corporals,

1. R. H. Liddell.
2. H. W. Allen.
3. C. E. Fort.
4. J. L. Skinner.
5. J. T. Moore.
6. C. M. Howard.
7. B. T. Simms.
8. S. A. Ellsberry.
9. P. C. Smith.
10. C. L. Chambers.
11. J. S. Lyell.
12. H. L. Budd.
13. R. G. Adams.
14. E. E. Binford.
15. F. W. Stanley.
16. H. H. Schomburg.
17. O. N. Powell.
18. C. W. Woodruff.

The A. P. I. Cadet Band,

M. Thomas Fullan, Bandmaster.
A. L. Thomas, Assistant Bandmaster.
C. S. McNeely, Principal Musician.

Burgess, N. A.
Cornell, C. V.
Dean, C. A.
Drake, R. H.
Frazer, J. H.
Gonzalez, J. Y.
Harrison, J. E.
Hendrix, C. L.
Heyward, J. B.
LeFevre, R. W.
Moon, B. H.
Richardson, C. B.
Samford, W. R.
Simpson, J. B.
Steadham, J. B.
Sparks, T. W.
Wright, H. W.
Zelaya, L.

Cadets of the graduating class who were reported to the Adjutant General, U. S. Army, for publication in the "Official Army Register" as having ranked highest in the Military Department:

1889.

A. St. C. Dunstan.
B. H. Crenshaw.
A. J. Burr.

1890.

F. D. Milstead.
J. W. Bivins.
G. W. Emory.

1891.

L. E. Baker.
C. C. Johnson.
F. J. Bivins.

1892.

H. F. Dobbin.
A. L. Jones.
C. L. Brown.

1893.

Joel Dumas.
C. H. Smith.
J. F. Webb.

1894.

C. S. Andrews.
P. P. McKeown.
R. T. Dorsey.

1895.

S. L. Coleman.
H. H. Smith.
L. B. Gammon.

1896.

A. L. Alexander.
W. L. Fleming.
W. M. Williams.

1897.

P. G. Clark.
G. M. Holley.
G. N. Mitcham.

1898.

A. H. Clark.
A. McB. Ransom.
John Haralson.

1899.

I. F. McDonnell.
A. H. Feagin.
T. W. Wert.

1900.

E. M. Mason.
H. P. Powell.
C. W. Nixon.

1901.

A. F. Jackson.
J. D. Foy.
P. S. Haley.

1902.

W. D. Willis.
J. E. D. Yonge.
J. B. Garber.

1903.

H. E. Davis.
H. M. Yonge.
T. J. Dowdell.

1904.

J. McDuffie.
B. L. Shi.
George Dunglinson, Jr.

1905.

R. P. Boyd.
R. M. McCulloh, Jr.
J. H. Paterson.

REQUIREMENTS FOR ADMISSION.

All applicants for admission should present testimonials of good moral character, and those who come from other colleges must present certificates of honorable discharge.

To enter the freshman class the applicant must be not less than fifteen years of age, and should be qualified to pass a satisfactory examination on the following subjects:

1. Geography and History of the United States.

2. English—(a) English grammar as contained in any standard text. (b) An examination upon sentences containing incorrect English. (c) A composition giving evidence of satisfactory proficiency in spelling, punctuation, grammar, and division into paragraphs.

(d) *Reading.* The composition of 1905 will be upon subjects drawn from one or more of the following works in English Literature: (1) Hughes's *Tom Brown at Rugby;* (2) Goldsmith's *Vicar of Wakefield;* (3) Shakespeare's *Julius Caesar;* (4) Longfellow's *Evangeline;* (5) Scott's *Ivanhoe;* (6) Shakespeare's *Merchant of Venice;* (7) Irving's *Sketch Book;* (8) Macaulay's *Essay on Milton;* (9) Scott's *Marmion:* (10) *Dickens's David Copperfield;* (11) George Eliot's *Silas Marner;* (12) *Macbeth;* (13) Irving's *Life of Goldsmith;* (14) Lowell's *Vision of Sir Launfal.*

The candidates will be required to present evidence of a general knowledge of the subject matter, and to answer simple questions on the lives of the authors. This part of the examination is intended only to test a general knowledge of the substance of the books.

(e) *Study and Practice.* This part of the examination presupposes the thorough study of the style of the work, and will be upon *Julius Caesar* and the *Essay on Milton.*

Preparation and examination on these works will be necessary before the student is classed as regular in any course.

3. Mathematics—(a) Arithmetic, including fundamental operations; common and decimal fractions; denominate numbers; the metric system; percentage, including interest and discount; proportion (b) Algebra to quadratic equations; especial preparation is urged in *fundamental operations: factoring, multiples, divisors and fractions;* (c) two books of geometry.

4. Those applicants who desire to continue the study of Latin should be qualified to pass a satisfactory examination in Latin grammar and the first two books of Caesar, in addition to the above subjects.

In pronouncing Latin it is recommended that ā be pronounced as in *father;* ă as the *a* in *Cuba;* ē as in *prey;* ĕ as in *men;* ī as in *machine,* ĭ as in *cigar;* ō as in *old;* ŏ as in *obey;* ū as in *rule;* ŭ as in *full;* *j* as *y* in *yard;* *c* always as *k* in *king;* *g* always as *g* in *get.*

For admission to the higher classes, students should be prepared to stand satisfactory examination in all of the studies of the lower classes, as shown in the course of study. Students applying for admission to the sophomore class will be examined in mathematics through quadratic equations in algebra, and on all of geometry. Where opportunity has not been offered to pursue special studies required at this college, the system of equivalents will be adopted, and studies which denote an equivalent amount of discipline and training will be accepted as satisfactory. But if not prepared to pass an examination in history and chemistry at the time of application, the applicant will be required before graduation to pass a satisfactory examination on these subjects.

It is absolutely essential that students who hope to succeed should be well grounded in arithmetic, algebra, and geometry.

A working knowledge of the metric system should also be obtained.

ADMISSION ON CERTIFICATE.

Applicants will be admitted without examination on presenting a certificate from any of the CERTIFICATE SCHOOLS named herein.

The following educational institutions having made application to be correlated to this college, and having presented an approved course of study, are hereby declared to be CERTIFICATE SCHOOLS, and are granted the privilege set forth in the following:

"Students from certificate schools will be admitted to the fresh-
" man class *without examination* upon the certificate of the presi-
" dent or principal, showing definitely that such students have
" completed satisfactorily all the studies required for admission, as
"stated in the catalogue, and are otherwise admissible."

The privilege of admitting students to the sophomore class on certificates will be granted only to those approved schools that have had a continuous existence for five years or more and have previously had pupils admitted to that class without conditions.

The following form of certificate will be used:

I hereby certify that A-------------B-----------has attended the (*name the school or academy*) for---------years, and has studied the following subjects:

in History--(*name the books*)
in English--(*name the books*)
in Algebra--------------------------------(*state amount accomplished*)
in Geometry-----------------------------(*state amount accomplished*)
in Latin---(*state books read*)
and having passed a satisfactory examination on these subjects as required in the catalogue for admission to the---------------class, he is recommended for the same.

Admission by certificate is regarded as provisional.

That is, though admitted to the class for which the certificate calls, the applicant may be required to take special examination in any subject in which his preparation proves unsatisfactory, or, after a fair trial, he may be dropped to a lower class, if he fails to maintain standing in the class to which he may be admitted.

CERTIFICATE SCHOOLS.

University Military School, Mobile----------------------J. D. Wright.
Verner Military Institute, Tuscaloosa-----------------W. H. Verner.
University School, Montgomery-------------------------J. M. Starke.
Mt. Willing High School, Mt. Willing--------------------J. Knight.
State Normal School, Jacksonville-----------------C. W. Daugette.
Male Academy, Huntsville----------------------------------F. Puryear.
Furman Academy, Livingston--------------------------L. A. Cockrell.
High School, Opelika---G. W. Brock.
Eighth District Agricultural School, Athens-----------Prof. Fouche.
Sixth District Agricultural School, Hamilton----------E. F. Cauthen.
Eutaw Male Academy, Eutaw--------------------------H. C. Horton.
Anniston Training School for Boys----------------------W. A. White.
Birmingham Classical School------------------------------J. O. Webb.

Jasper Graded School	W. E. Turnipseed.
Tuskegee High School	W. B. Riley.
Mobile Military Institute	F. R. Peterson.
University High School, Birmingham	I. J. White, M. B. Dickinson.
Fourth District Agricultural School, Sylacauga	T. A. Anderson.
Gaylesville High School	John R. Ray.
Oxford Graded Schools	John R. Bell.
Carrollton Academy	
Ninth District Agricultural School, Blountsville	J. A. B. Lovett.
Gadsden High School	W. E. Striplin.
Boyd High School, Brundidge	B. H. Boyd.
Eufaula High School	F. L. McCoy.
Union Springs High School	W. R. Harrison.
Montgomery High School	C. L. Floyd.
Sycamore Academy	C. C. Slaton.
Southern Agricultural School, Abbeville	J. V. Brown.
Barnes' School, Montgomery	E. R. Barnes.
Jackson Agricultural School	Douglas Allen.
Pensacola Classical School	H. C. Armstrong.
Pratt City High School	P. M. McNeil.

ADMISSION OF YOUNG WOMEN.

The privilege of becoming students in this college is granted by the trustees to young women of mature mind and character, on the following conditions:

The applicant must be seventeen years of age, and if a candidate for a degree, be able to pass a satisfactory examination in each of the four subjects named below.

If the applicant is a candidate for admission as a special or irregular student, she must be able to pass a satisfactory examination in two of the subjects named, and may be admitted at an age less than seventeen, with a resident of Auburn acting as guardian, if application is approved by the faculty.

(a) In English—Proficiency in spelling and punctuation; Grammar (Lockwood-Whitney); Rhetoric (Lockwood and Emerson's Composition and Rhetoric and Espenshade's Rhetoric); Scudder's Master pieces of American Literature; Syle's From Milton to Tennyson.

For requirements in reading in literature, see page 43.

(b) In History—Macy's Our Government; Chambers's History of the United States; Meyers's General History.

(c) In Mathematics—Arithmetic; Algebra, including quadratic equations, logarithms and series; Plane and Solid Geometry; Plane and Spherical Trigonometry, as in Wentworth.

(d) In Latin—Grammar, including the forms and syntax; Jones's Latin Prose Composition; translations of selections from Cæsar, Nepos, Virgil, Cicero's Orations, Cicero's Letters, or the equivalent.

The equivalents of these subjects, as in above text-books, may be substituted.

When admitted, upon complying with the conditions above stated, the applicants may enter upon the study of any subject taught in the college and join any class, for which upon examination, they may be found qualified. The only condition imposed will be that they engage in earnest study, and attend the exercises regularly. They will board in town with private families, and attend college only at the hours of their exercises.

ENTRANCE EXAMINATIONS.

Entrance examinations will be held on Wednesday, the 5th of September, the day on which the session opens. Candidates will be also examined during the session, when application is made for admission.

Applicants who are not prepared to stand the entrance examinations for full admission to the freshman class are admitted to the sub-college department, provided they are sixteen years of age, and are found after examination qualified to profit by the instruction given. Those who, after admission, are inattentive to their studies, and neglectful of their duties, will be required to withdraw, but those who are studious and make sufficient progress will be advanced to full admission to the freshman class when they are qualified to pass satisfactorily the required examinations.

Students, upon their arrival at Auburn, will report immediately to the President. No student will be admitted to a recitation in any class previous to matriculation.

NUMBER OF EXERCISES REQUIRED.

All students are required to have *not less than fifteen* recitations per week, or their equivalent, in addition to the exercises in laboratory work, drawing and military drill. These additional exercises occupy not less than twelve hours per week, and in all give twenty-seven to thirty hours per week required in college exercises.

SPECIAL AND IRREGULAR STUDENTS

The privilege of electing studies in the lower classes is not granted to young students nor to their parents.

The faculty will assign a student, on admission, to that class of a prescribed course for which he is qualified, and for special reasons, approved by the faculty, he may be permitted to become irregular.

Students qualified to prosecute the studies of the junior class, and those over twenty-one years of age that are not candidates for a degree, are permitted to take, with the advice of the faculty, the subjects of study for which they may on examination prove themselves qualified.

For an applicant to enter upon the study of Civil, Mining, Electrical, or Mechanical Engineering as a special or irregular student he must have studied algebra through quadratics and logarithms, plane geometry, and plane trigonometry.

The professor in charge of a department will decide by examination whether a special student is prepared for admission to his class.

A student who does not take all the studies in a class of one of the degree courses, as prescribed in the catalogue, and is permitted to take an irregular course, will be assigned to a member of the faculty, who will act as his special adviser, and when his course of study has been approved by the faculty, no other change will be permitted without the endorsement of his adviser.

Regular students who fail to pass satisfactory final examinations in any one study become irregular students. They will be classed as regular students pursuing a course for a degree, whenever they can pass the examinations in those subjects in which they were found deficient.

Students, candidates for a degree, who are not in full standing in all the prescribed studies of a class, rank in the military department with that class in which they have the greatest number of studies, and their names are so placed in the catalogue.

ADMISSION TO HIGHER CLASSES.

At the beginning of each term a student in the sub-freshman class may, on application approved by the faculty, be examined for admission to the freshman class in history, English and mathematics, and be admitted to the freshman class in those subjects in which he passes a satisfactory examination.

Students who have completed satisfactorily all the studies of the sophomore class, as prescribed in the catalogue, in any one of the regular degree courses, can enter, without condition, the junior class in any course, except in the general course, and the course in pharmacy, in which Latin is required, and the course in chemistry and agriculture in which botany and physiology are required.

Students who are admitted to the junior class from other institutions, on examination in English, Latin and mathematics, and who have not completed all the studies of the sophomore class, in order to graduate, will be required to complete the course in chemistry and history as taught in the sophomore class. In addition to these two subjects, students who thus enter the junior class of the course in chemistry and agriculture, will be required to complete the course in botany and physiology in the sophomore class.

COURSES OF INSTRUCTION.

The courses of study include the Physical, Chemical, and Natural Sciences, with their applications; Agriculture; Biology; Horticulture; Mechanics, Astronomy, Mathematics; Drawing; Civil, Electrical, Mechanical, and Mining Engineering; Philosophy and Veterinary Science, Pharmacy; English, French, German, and Latin Languages; History, Political Economy; Mental and Moral Sciences.

The studies are arranged in regular courses so as to offer liberal and practical education as a preparation for the active pursuits of life.

There are seven degree courses for undergraduates, each leading to the degree of Bachelor of Science (B. S.) and requiring four years for its completion.

I. COURSE IN CHEMISTRY AND AGRICULTURE.

II. COURSE IN CIVIL ENGINEERING.

III. COURSE IN ELECTRICAL ENGINEERING.

IV. COURSE IN MECHANICAL ENGINEERING.

V. COURSE IN MINING ENGINEERING.

VI. COURSE IN CHEMISTRY AND METALLURGY.

VII. COURSE IN PHARMACY.

VIII. GENERAL COURSE.

IX. TWO-YEAR COURSE IN AGRICULTURE.

X. TWO-YEAR COURSE IN MECHANIC ARTS.

XI. TWO-YEAR AND THREE-YEAR COURSE IN PHARMACY.

Course I. includes theoretical and practical instruction in those branches that relate to chemistry and agriculture, and is especially adapted to those who propose to devote themselves to agriculture or chemical pursuits.

Course II. includes the principles and applications of sciences that directly relate to civil engineering, and is adapted to those who expect to enter that profession.

Course III. includes, besides the general principles and applications of the sciences, a special course in the applications of electricity and mechanics, and is arranged to fit men for the profession of electrical engineering.

Course IV. furnishes instruction in steam engineering, materials of construction, drawing and machine design, electrical engineering, together with laboratory work. The course is intended to qualify men to fill positions in the manufacturing industries.

Course V. includes theoretical and practical instruction in geology, mineralogy, chemistry, civil and electrical engineering, as applied to mines; mapping, exploration; boring; ventilation; timbering, and all the operations pertaining to the profession of mining engineering.

Course VI. provides for thorough theoretical and practical instruction in pure and technical chemistry and metallurgy, and in the scientific branches relating thereto. Students taking this course also pursue the study of German or French during the junior and senior years, and are thus prepared to utilize for reference and for study scientific journals and works published in those languages.

Course VII. includes, besides the general education of course IV. in the lower classes, a special course in pharmacy and chemistry, and is adapted to those who expect to become pharmacists, manufacturing chemists, or to enter upon the study of medicine.

Course VIII. has been arranged to give a general and less technical education in subjects of science and language to meet the wants of those students who have selected no definite vocation in life, as well as of those who propose ultimately to engage in teaching or in some commercial or professional business.

Courses IX. X. and XI. have been arranged for the benefit of those students who, for reasons satisfactory to themselves, are unable to continue at college four years and to take one of the regular degree courses.

A student who completes satisfactorily all the work of the senior class in a department, including the laboratory work, with approval of the faculty, may be awarded a certificate of proficiency in said subject.

Students who complete one of the two-year courses will, on passing a satisfactory examination, receive certificates indicating their attainments.

A student who completes the work of the two-year course in pharmacy and submits a satisfactory thesis will be granted the degree of Graduate in Pharmacy, (Ph. G.)

A student who completes the work of the three-year course in pharmacy and submits a satisfactory thesis will be granted the degree of Pharmaceutical Chemist, (Ph. C.)

No degree or certificate of proficiency will be given in any course unless the applicant has passed a satisfactory examination in elementary English. Every candidate for a degree will be required to stand this special examination during the second term of the senior year.

Declamations and themes or orations are required of all regular students pursuing courses leading to a degree.

POST-GRADUATE COURSES.

A more extended post-graduate course of study may be taken by a graduate of this college or of any other institution of equal grade. The completion of a course which leads to a post-graduate degree of Master of Science requires one year's residence at the college, spent in the satisfactory prosecution of a course of study, with such laboratory work as may be approved by the faculty.

The candidate must also present to the faculty a satisfactory thesis showing independent investigation upon some subject pertaining to his course, and must pass an examination, at the close of each term, on the course of study prescribed, in which he must attain a grade of 75 per cent. The examination is written, and also oral in the presence of the faculty.

The subject of the thesis must be submitted to the faculty for approval prior to January 1st, and the thesis given to the professor of English by May 1st.

Applicants for a post-graduate degree and special students in post-senior studies are subject to the same general regulations as other students, and *pay the same fees;* but are exempt from all military duty.

The following courses are prescribed for the degree named:

1. *Master of Science.*—Studies in three departments, in two of which the candidate must have previously completed the full course of the senior class; or in special cases, with the approval of the faculty, a student may devote his full time to work in two departments, in each of which he has completed the full senior course.

2. *Master of Science in Pharmacy.*—Pharmacy and chemistry.

3. *Civil Engineer.*—Civil Engineering, mathematics, and analytical mechanics, or mining engineering.

4. *Electrical Engineer; Mechanical Engineer.*—Electrical engineering, mechanical engineering.

5. *Mining Engineer.*—Students who have received the degree of B. S., in engineering, mining, civil, or electrical and mechanical, or in the course of chemistry and metallurgy, or who have prosecuted an equivalent course of study, can enter upon a special course of mining engineering, which includes the following subjects of study:

Industrial chemistry, analytical chemistry, assaying, reduction of ores, mineralogy, economic geology, with practical work in the field with mining machinery, with the application of steam and electricity to the various operations connected with exploitation of mines.

The student, if a candidate for a degree, will also be required to prosecute the necessary studies in that course of engineering in which he has not graduated. This course of study will be under the charge of the professors in the different engineering departments, the professor of chemistry, and the professor of mining engineering and geology.

Special Students in Post-Senior Studies.—Students who are not graduates, but are qualified in special subjects to prosecute post-senior studies, and desire to prepare themselves more thoroughly for professional or special work in any one of the departments of engineering, in chemistry or pharmacy, veterinary science, or other subjects in which instruction is given, may, when qualified, with approval of the faculty, enter this higher department of study and have all the privileges of post-graduate students.

A certificate of proficiency will be given when any one subject of a post-graduate course is satisfactorily completed.

Two degrees will not be given the same year.

PROFESSIONAL DEGREES.

The professional degree of Civil Engineer, Electrical Engineer, Mechanical Engineer or Mining Engineer, will be given six years after receiving the degree of Bachelor of Science, provided four years of the intervening time have been spent in a responsible position in practical engineering work in that department in which the degree of Bachelor of Science was received, and an approved thesis is submitted to the faculty, with a report of the character of the work done.

SPECIAL ONE-YEAR COURSE IN AGRICULTURE.

Young men over twenty-one years of age who desire to study agriculture will be permitted, without examination, to enter any class under the professor of agriculture, and will be excused from reciting in any other class, from military duty, and from all other college duties; but will be under the general college regulations, and will be required to have their time fully occupied.

They may attend the lectures in agriculture in all the classes and engage in the practical work at the experiment station, in the field, stock-yard, dairy, garden, orchard, vineyard, etc., and may thus, in one year acquire valuable practical knowledge of scientific agriculture.

Laboratory instruction constitutes an important feature in the course of education provided for the students of this institute, and as far as possible all students are required to enter upon laboratory work in some one department.

Laboratory instruction and practical work are given in the following departments:

I. CIVIL ENGINEERING, FIELD WORK, SURVEYING, ETC.

II. ELECTRICAL ENGINEERING. TELEPHONE ENGINEERING.

III. MECHANICAL ENGINEERING.

IV. MINING ENGINEERING,

V. MECHANIC ARTS.

VI. TECHNICAL DRAWING.

VII. PHYSICS.

VIII. MINERALOGY.

IX. CHEMISTRY, METALLURGY.

X. AGRICULTURE, ANIMAL INDUSTRY.

XI. VETERINARY SCIENCE, BACTERIOLOGY, PHYSIOLOGY.

XII. HORTICULTURE.

XIII. BOTANY.

XIV. BIOLOGY.

XV. PHARMACY.

XVI. PHOTOGRAPHY.

NOTE.—Special work in English or History may be taken by students in the general course as a substitute for laboratory work.

I. COURSE IN CHEMISTRY AND AGRICULTURE.

The numerals opposite the subjects indicate the number of hours per week.

FRESHMAN CLASS.

First Term.	*Second Term.*	*Third Term.*
5. English.	5. English.	5. English.
2. History.	2. History.	3. History.
5. Mathematics.	5 Mathematics.	5. Mathematics.
3. Elementary Physics.	3. Elementary Physics.	2. Agriculture.
3. Drawing.	3. Drawing.	3. Drawing.
6. Mechanic Art Lab'y.	6 Mechanic Art Lab'y.	6. Mechanic Art Lab'y.
3. Military Drill.	3. Military Drill.	3. Military Drill.

SOPHOMORE CLASS.

First Term.	*Second Term.*	*Third Term.*
3. English.	3. English.	3. English.
3. History.	3. History.	3. Botany.
5. Mathematics.	5. Mathematics.	5. Mathematics.
3. General Chemistry.	3. General Chemistry.	3. General Chemistry.
2. Agriculture.	2. Agriculture.	2. Agriculture.
2. Physiology.	2. Physiology.	2. Physiology.
3. Drawing.	3. Drawing.	3. Drawing.
2. Chemical Lab'y.	2. Chemical Lab'y.	2. Chemical Lab'y.
4. Mechanic Art Lab'y.	4. Mechanic Art Lab'y.	4. Agricultural Lab'y.
4. Agricultural Lab'y.	4. Agricultural Lab'y.	4. Botanical Lab'y.
3. Military Drill.	3. Military Drill.	3. Military Drill.

JUNIOR CLASS.

First Term.	*Second Term.*	*Third Term.*
3. English (a).	3. English (a).	3. English (a).
3. Physics.	3. Physics.	3. Physics.
2. Agricultural Chem.	2. Agricultural Chem.	3. Industrial Chem.
2. Agriculture.	2 Agriculture.	2. Horticulture.
2. Botany.	2. Botany.	2. Botany.
2. Veterinary Science.	2. Horticulture.	2. Veterinary Science.
1. Military Tactics.	2. Veterinary Science.	1. Military Tactics.
3. Clinical Lab'y.	1. Military Tactics.	3. Clinical Lab'y.
6 Chemical Lab'y.	3. Clinical Lab'y.	6. Chemical Lab'y.
2. Botanical Lab'y.	6. Chemical Lab'y.	2. Botanical Lab'y.
2. Agricultural Lab'y.	2. Botanical Lab'y.	4. Horticultural Lab'y.
3. Military Drill.	4 Horticultural Lab'y.	3. Military Drill.
	2. Agricultural Lab'y.	
	3 Military Drill.	

SENIOR CLASS.

First Term.	*Second Term.*	*Third Term.*
2. English Literature (a).	2. Political Econ'y (a).	2. Political Econ'y (a).
2. Geology.	2. Geology.	2. Geology.
2. Botany.	2. Botany.	2. Botany.
2. Agriculture.	2. Agriculture.	2. Agriculture.
3. Entomology.	3. Horticulture.	3. Horticulture.
2. Animal Industry.	2. Animal Industry.	2. Astronomy.

2. Veterinary Science.	2. Veterinary Science.	2 Veterinary Science.
1. Military Science.	1. Military Science.	1. Military Science.
6. Chemical Lab'y.	6. Chemical Lab'y.	6. Chemical Lab'y.
3. Clinical Lab'y.	3. Clinical Lab'y.	3. Clinical Lab'y.
4. Botanical Lab'y.	4. Botanical Lab'y.	4. Botanical Lab'y.
2. Agric. Lab'y. (1, 2).	2. Agric. Lab'y. (1, 2).	

(a) French or German may be substituted.

II. COURSE IN CIVIL ENGINEERING.

The numerals opposite the subjects indicate the number of hours per week.

FRESHMAN CLASS.

First Term.	*Second Term.*	*Third Term.*
5. English.	5. English.	5. English.
2. History.	2. History.	3. History.
5. Mathematics.	5. Mathematics.	5. Mathematics.
3. Elementary Physics.	3. Elementary Physics.	2. Agriculture.
3. Drawing.	3. Drawing.	3. Drawing.
6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y.
3. Military Drill.	3. Military Drill.	3. Military Drill.

SOPHOMORE CLASS.

First Term.	*Second Term.*	*Third Term.*
3. English.	3. English.	3. English.
3. History.	3. History.	3. Elem't'y Mechanics.
5. Mathematics.	5. Mathematics.	5. Mathematics.
3. General Chemistry.	3. General Chemistry.	3. General Chemistry.
2. Physiology.	2. Physiology.	2. Physiology.
2. Descriptive Geometry	2. Descriptive Geometry	2. Descriptive Geometry
3. Drawing (a).	3. Drawing(a).	3. Drawing (a).
4. Mechanic Art Lab'y.	4. Mechanic Art Lab'y.	4. Mechanic Art Lab'y.
2. Chemical Lab'y.	2. Chemical Lab'y.	2. Chemical Lab'y.
2. Physical Lab'y.	2. Physical Lab'y.	2. Physical Lab'y.
3 Military Drill.	3. Military Drill.	3. Military Drill.

JUNIOR CLASS.

First Term.	*Second Term.*	*Third Term.*
3. English, French or German.	3. English, French or German.	3. English, French or German.
3. Physics.	3. Physics.	3. Physics.
5. Mathematics.	5. Mathematics.	5. Mathematics.
5. Civil Engineering.	5. Civil Engineering.	5. Civil Engineering.
5. Drawing.	5. Drawing.	5. Drawing.
1. Military Tactics.	1. Military Tactics.	1. Military Tactics.
6. Lab'y. Mechanic Arts, (b).	6. Lab'y. Mechanic Arts, (b).	6. Lab'y. Mechanic Arts, (b).
1. Field Work, Engineering.	1. Field Work, Engineering.	1. Field Work, Engineering.
3. Military Drill.	3. Military Drill.	3. Military Drill.

SENIOR CLASS.

First Term.	*Second Term.*	*Third Term.*
2. English Literature, (c).	2. Political Economy (c).	2. Political Economy (c).
2. Physics.	2. Physics.	2. Astronomy.
2. Geology.	2. Geology.	2. Geology.
3. Mathematics.	3. Mathematics.	3. Mathematics.
5. Civil Engineering.	5. Civil Engineering.	5. Civil Engineering.
5. Drawing.	5. Drawing.	5. Drawing.
1 Military Science.	1. Military Science.	1. Military Science.
4. Mech. Eng. Lab'y.	4. Mech. Eng. Lab'y.	4. Mech. Eng. Lab'y.
Field Work Engineering.	Field Work Engineering.	Field Work Engineering.

(a) Mechanical drawing may be substituted. (b) Or Mineralogy.

(c) French or German may be substituted.

III. COURSE IN ELECTRICAL ENGINEERING.

In freshman and sophomore classes the same studies are prescribed as in Course II in Civil Engineering.

JUNIOR CLASS.

3. English, French or German.	3. English, French or German.	3. English, French or German.
3. Physics.	3. Physics.	3 Physics.
5. Mathematics.	5. Mathematics.	5. Mathematics.
4 Electrical Engineering.	4. Electrical Engineering.	4 Electrical Engineering.
3. Mechanical Engineering.	3 Mechanical Engineering.	3. Mechanical Engineering.
4. Mechanical Drawing.	4. Mechanical Drawing.	4 Mechanical Drawing.
4. Electrical Lab'y.	4. Electrical Lab'y.	4. Electrical Lab'y.
6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y.
1. Military Tactics.	1. Military Tactics.	1. Military Tactics.
3. Military Drill.	3. Military Drill.	3. Military Drill.

SENIOR CLASS.

First Term.	*Second Term.*	*Third Term.*
2. English Literature (a).	2 Political Economy (a).	2. Political Economy (a).
2. Physics.	2. Physics.	2. Astronomy.
3. Mathematics.	3. Mathematics.	3. Mathematics.
5. Electrical Engineering.	5. Electrical Engineering.	5. Electrical Engineering.
2. Telephone Engineering.	2. Telephone Engineering.	2. Telephone Engineering.
5. Steam Engines and Boilers.	5. Heat and Heat Engines.	5. Heat and Heat Engines.
1. Military Science.	1. Military Science.	1. Military Science.
		1. Specifications and Contracts.

2. Electrical Designing.	2. Electrical Designing.	2. Electrical Designing.
4. Electrical Lab'y.	4. Electrical Lab'y.	4. Electrical Lab'y.
2. Telephone Lab'y.	2. Telephone Lab'y.	2. Telephone Lab'y.
4. Mech. Eng. Lab'y.	4. Mech. Eng. Lab'y.	4. Mech. Eng. Lab'y.

(a) French or German may be substituted.

IV. COURSE IN MECHANICAL ENGINEERING.

In freshman and sophomore classes the same studies are prescribed as in Course II in Civil Engineering, and in the junior class, the studies are the same as in Course III in Electrical Engineering.

SENIOR CLASS.

First Term.	*Second Term.*	*Third Term.*
2. English Literature (a).	2. Political Econ'y (a).	2. Political Econ'y (a).
2 Physics.	2. Physics.	2. Astronomy.
3. Mathematics.	3. Mathematics.	3 Mathematics.
5. Electrical Engineering.	5. Materials of Construction.	5. Hydraulics.
5. Power Plant Engineering.	5. Heat and Heat Engines.	5. Heat and Heat Engines.
2. Steam Boilers.	2. Gas Engines.	2. Contracts and Specifications.
1 Machine Design, Lectures.	1 Machine Design, Lectures.	1. Machine Design, Lectures.
6. Machine Design Drawing.	6. Machine Design Drawing.	6. Machine Design Drawing.
2. Electrical Lab'y.	2. Electrical Lab'y.	2. Electrical Lab'y.
4. Mechanical Lab'y.	4. Mechanical Lab'y.	4. Mechanical Lab'y.
1. Military Science.	1. Military Science.	1. Military Science.

(a) French or German may be substituted.

V. COURSE IN MINING ENGINEERING.

In freshman and sophomore classes the same studies are prescribed as in Course II in Civil Engineering.

JUNIOR CLASS.

First Term.	*Second Term.*	*Third Term.*
3 English, French or German.	3. English, French or German.	3. English, French or German.
3. Physics.	3. Physics.	3 Physics.
5. Mathematics.	5. Mathematics.	5. Mathematics.
5. Mining Engineering.	5 Mining Engineering.	5. Mining Engineering.
3. Drawing.	3 Drawing.	3. Drawing.
2. Economic Geology.	2. Economic Geology.	2. Economic Geology.

4. Lab'y. Mineralogy.	4. Lab'y. Mineralogy.	4. Lab'y. Mineralogy.
4. Machine Shop.	4. Machine Shop.	4. Machine Shop.
3. Field Work.	3. Field Work.	3. Field Work.
1. Military Tactics.	1. Military Tactics.	1. Military Tactics.
3. Military Drill.	3. Military Drill.	3. Military Drill.

SENIOR CLASS.

First Term.	*Second Term.*	*Third Term.*
2. English Literature, (a).	2. Political Econ. (a).	2. Political Econ'y (a).
2. Physics.	2. Physics.	2. Astronomy.
2. Geology.	2. Geology.	2. Geology.
3. Mathematics.	3 Mathematics.	3. Mathematics.
3. Mining Engineering.	3. Mining Engineering.	3. Mining Engineering.
2. Electrical Engineering.	2. Electrical Engineering.	3. Drawing.
2. Metallurgy.	2. Metallurgy.	2. Metallurgy.
3. Drawing.	3. Drawing.	1. Military Science.
1. Military Science.	1. Military Science.	8. Chem. Lab'y. and Assaying.
8 Chem. Lab'y. and Assaying.	8 Chem. Lab'y. and Assaying.	
3. Field Work.	3. Field Work.	3. Field Work.

(a) French or German may be substituted.

VI. CHEMISTRY AND METALLURGY.

The numerals opposite the subject indicate the number of hours per week. In the freshman and sophomore classes the same studies are prescribed as in Course I in Agriculture and Chemistry, or in Course VIII. in General Course.

JUNIOR CLASS.

First Term.	*Second Term.*	*Third Term.*
3. English.	3. English.	3. English.
3. Physics.	3. Physics.	3. Physics.
4. Industrial Chemistry.	4. Industrial Chemistry.	4 Industrial Chemistry.
2. Organic Chemistry.	2 Organic Chemistry.	2. Organic Chemistry.
4. *Mineralogy (Lab'y.)	4. *Mineralogy (Lab'y.)	4. *Mineralogy (Lab'y.)
2. Economic Geology.	2. Economic Geology.	2. Economic Geology.
1. Military Science.	1. Military Science.	1. Military Science.
9. Chemical Lab'y.	9. Chemical Lab'y.	9. Chemical Lab'y.
3. Military Drill.	3. Military Drill.	3 Military Drill.

SENIOR CLASS.

First Term.	Second Term.	Third Term.
2. English Literature.	2. Political Economy.	2. Political Economy.
2. Physics.	2. Physics.	2. Astronomy.
3. German or French.	3. German or French.	3. German or French.
2. Geology.	2. Geology.	2. Geology.
3. Metallurgy and Engineering Chem.	3. Metallurgy and Engineering Chem.	3. Metallurgy and Engineering Chem.
2. Analytical Chem.	2. Analytical Chem.	2. Analytical Chem.
1. Military Science.	1. Military Science.	1. Military Science.
9. Chemical Lab'y. and Assaying.	9. Chemical Lab'y.. and Assaying.	9. Chemical Lab'y. and Assaying.
3. Metallurgical Designing.	3. Metallurgical Designing.	3. Metallurgical Designing.

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*Mechanic Art Laboratory may be substituted.

VII. COURSE IN PHARMACY.

The numerals opposite the subjects indicate the number of hours per week.

FRESHMAN CLASS.

First Term.	Second Term.	Third Term.
3. English.	3. English.	3. English.
2 History.	2. History.	2. History.
4. Latin.	4. Latin.	3. Latin.
5. Mathematics.	5. Mathematics.	5 Mathematics.
3. Drawing.	3. Drawing.	3. Drawing.
6. Mechanic Art Lab'y.	6 Mechanic Art Lab'y.	2. Agriculture.
3. Military Drill.	3. Military Drill.	6. Mechanic Art Lab'y.
		3. Military Drill.

SOPHOMORE CLASS.

First Term.	Second Term.	Third Term.
5. Latin.	5. Latin.	5. Latin.
3. History.	3 History.	3. Botany.
5. Mathematics.	5. Mathematics.	5. Mathematics.
3. General Chemistry.	3. General Chemistry.	3 General Chemistry.
2. Physiology.	2. Physiology.	2. Physiology.
3. Drawing.	3. Drawing.	3. Drawing.
6. Chemical Lab'y.	6. Chemical Lab'y.	6 Chemical Lab'y.
3. Military Drill.	3. Military Drill.	4. Botanical Lab'y.
		3 Military Drill.

JUNIOR CLASS.

First Term.	Second Term.	Third Term.
3. English (a).	3. English.	3. English.
3. Physics.	3. Physics.	3 Physics.
4. Botany.	4. Botany.	4. Botany.
3. Pharmacy.	3. Pharmacy.	3. Pharmacy.
4. Pharmacognosy.	4. Pharmacognosy.	4. Pharmacognosy.
6. Chemical Lab'y.	6. Chemical Lab'y.	6 Chemical Lab'y.
1. Military Tactics.	1 Military Tactics.	1. Military Tactics.
3. Military Drill.	3. Military Drill.	3. Military Drill.

SENIOR CLASS.

First Term.	*Second Term.*	*Third Term.*
3. Bacteriology.	3. Bacteriology.	3. Materia Medica.
2. Organic Chemistry.	2. Organic Chemistry.	2. Organic Chemistry.
5. Pharmacy.	5. Pharmacy.	5. Pharmacy.
4. Prescriptions.	4. Prescriptions.	4. Prescriptions.
1. Military Science.	1. Military Science.	1. Military Science.
6. Chemical Lab'y.	6. Chemical Lab'y.	6. Chemical Lab'y.
3. Bacteriology Lab'y.	3. Bacteriology Lab'y.	7. Toxicology.
15, Pharmaceutical Lab'y.	15. Pharmaceutical Lab'y.	3. Urinalysis.
		15. Pharmaceutical Lab'y.

(a) French or German may be substituted.

VIII. GENERAL COURSE.

The numerals opposite the subjects indicate the number of hours per week.

FRESHMAN CLASS.

First Term.	*Second Term.*	*Third Term.*
3. English.	3. English.	3. English.
2. History.	2. History.	3. History.
4. Latin.	4. Latin.	3. Latin.
5. Mathematics.	5. Mathematics.	5. Mathematics.
3. Drawing.	3. Drawing.	2. Agriculture.
6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y.	3. Drawing.
3. Military Drill.	3. Military Drill.	6. Mechanic Art Lab'y.
		3. Military Drill.

SOPHOMORE CLASS.

First Term.	*Second Term.*	*Third Term.*
5. Latin.	5. Latin.	5. Latin.
3. History.	3. History.	3. History (b).
5. Mathematics.	5. Mathematics.	5. Mathematics.
3. General Chemistry.	3. General Chemistry.	3 General Chemistry.
3. Drawing.	3. Drawing.	3. Drawing.
4 Mechanic Art Lab'y.	4. Mechanic Art Lab'y.	4. Mechanic Art Lab'y.
2. Chemical Lab'y.	2. Chemical Lab'y.	2. Chemical Lab'y.
3. Military Drill.	3. Military Drill.	3. Military Drill.

JUNIOR CLASS.

First Term.	*Second Term.*	*Third Term.*
3. English.	3. English.	3. English.
3. Physics.	3. Physics.	3. Physics.
3. Mathematics.	3. Mathematics.	3. Mathematics.
3. French.	3 French.	3. French.
3. German.	3. German.	3. German.
3. Latin.	3. Latin.	3. Latin.
1. Military Tactics.	1. Military Tactics.	1. Military Tactics.
6. Lab'y. Work (b).	6. Lab'y. Work (b).	6. Lab'y. Work (b).
3. Military Drill.	3. Military Drill.	3. Military Drill.

SENIOR CLASS.

First Term.	*Second Term.*	*Third Term.*
2. English.	2. Political Economy.	2. Political Economy.
2. Mental Science.	2. Mental Science.	2. Mental Science.
		2. Astronomy.
2. Geology.	2. Geology.	2. Geology.
4. French.	4. French.	4. French.
4. German.	4. German.	4. German.
3. Latin.	3. Latin.	3. Latin.
1. Military Science.	1. Military Science.	1. Military Science.
6. Lab'y. Work (b).	6. Lab'y. Work (b).	6. Lab'y. Work (b).

(a) Botany or Mechanics may be substituted. (b) The student may elect the laboratory of any department for which he may be qualified.

IX. TWO-YEAR COURSE IN MECHANIC ARTS.

FIRST YEAR.

First Term.	*Second Term.*	*Third Term.*
5. English.	5. English.	5. English.
2. History.	2. History.	3. History.
5. Mathematics.	5 Mathematics.	5. Mathematics.
3. Elementary Physics.	3. Elementary Physics.	2. Agriculture.
3. Drawing.	3 Drawing.	3. Drawing.
6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y.	6 Mechanic Art Lab'y.
3. Military Drill.	3. Military Drill.	3. Military Drill.

SECOND YEAR.

First Term.	*Second Term.*	*Third Term.*
3. English.	3. English.	3. English.
5 Mathematics.	5. Mathematics.	5. Mathematics.
3. Physics.	3. Physics.	3. Physics.
3. Drawing.	3. Drawing.	3. Drawing.
12. Mechanic Art Lab'y.	12. Mechanic Art Lab'y.	12. Mechanic Art Lab'y.
3 Military Drill.	3. Military Drill.	3. Military Drill.

X. TWO-YEAR COURSE IN AGRICULTURE.

FIRST YEAR.

First Term.	*Second Term.*	*Third Term.*
3. English.	3. English.	3. English.
2. Physiology.	2. Physiology.	2. Physiology.
5. Mathematics.	5. Mathematics.	5. Mathematics.
3. Elementary Physics.	3. Elementary Physics.	2. Agriculture.
3. Drawing.	3. Drawing.	3. Botany.
6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y.	4. Botanical Lab'y.
4. Agricultural Lab'y.	4. Agricultural Lab'y.	3. Horticulture.
3. Clinical Lab'y.	3 Clinical Lab'y.	4. Practical Agricult'r.
3. Military Drill.	3. Military Drill.	3. Clinical Lab'y.
		3. Military Drill.

SECOND YEAR.

First Term.	*Second Term.*	*Third Term.*
3. English.	3. English.	3. English.
4. Agriculture.	4. Agriculture.	4. Agriculture.
3. Chemistry.	3. Chemistry.	3. Chemistry.
2. Veterinary Science.	2. Veterinary Science.	2. Veterinary Science.
	2. Horticulture.	2. Horticulture.
4. Agricultural Lab'y.	4. Agricultural Lab'y.	4. Agricultural Lab'y.
	2. Horticultural Lab'y.	2. Horticultural Lab'y.
2. Chemical Lab'y.	2. Chemical Lab'y.	2. Chemical Lab'y.
3. Clinical Lab'y.	3 Clinical Lab'y.	3. Clinical Lab'y.
3. Military Drill.	3. Military Drill.	3. Military Drill.

XI. TWO-YEAR COURSE IN PHARMACY.

FIRST YEAR.

First Term.	*Second Term.*	*Third Term.*
3. English.	3. English.	3. Botany.
3. General Chemistry.	3. General Chemistry.	3. General Chemistry.
2. Chemical Lab'y.	2. Chemical Lab'y.	2 Chemical Lab'y.
2. Physiology.	2. Physiology.	2. Physiology.
3. Pharmacy.	3. Pharmacy.	3. Pharmacy.
4. Pharmacognosy.	4. Pharmacognosy.	4. Pharmacognosy.
6 Chemical Lab'y.	6. Chemical Lab'y.	6. Chemical Lab'y.
3 Military Drill.	3. Military Drill.	4. Botanical Lab'y.
		3. Military Drill.

SECOND YEAR.

First Term.	*Second Term.*	*Third Term.*
5. Pharmacy.	5. Pharmacy.	5. Pharmacy.
3. Prescriptions.	3. Prescriptions.	3. Prescriptions.
15. Pharmaceutical Lab'y.	15. Pharmaceutical Lab'y.	15. Pharmaceutical Lab'y.
2. Organic Chemistry.	2. Organic Chemistry.	2. Organic Chemistry.
6. Chemical Lab'y.	6 Chemical Lab'y.	6. Toxicology.
6. Bacteriology.	6. Bacteriology.	3. Materia Medica.
4. Botany.	4. Botany.	4. Botany.
3. Military Drill.	3 Military Drill.	3. Military Drill.

XII. THREE-YEAR COURSE IN PHARMACY.

In the first and second years the same studies are prescribed as in Course XI.

THIRD YEAR.

First Term.	*Second Term.*	*Third Term.*
20. Pharmaceutical Chemistry and Lab'y.	20. Pharmaceutical Chemistry and Lab'y.	20. Pharmaceutical Chemistry and Lab'y.
15. Chemistry and Chemical Lab'y.	15. Chemistry and Chemical Lab'y.	15. Chemistry and Chemical Lab'y.
3. Bacteriological. Lab'y.	3. Bacteriological. Lab'y.	3. Bacteriological. Lab'y.

SCHEDULE OF EXERCISES.

HOURS	MONDAY.	TUESDAY.	WEDNESDAY.	THURSDAY.	FRIDAY.	SATURDAY.
I. 8-9.	4. Algebra. 3. Latin. 2. Pharmacy. 2. Mech. Engineer'g. 2. Horticult. Lab'y. 1 and 2. Drawing. 1. Elec. Engineer'g. 1. Botany. 1. German. 1. Bacteriology.	4 Geometry. 3. Agriculture. 3. Latin. 2. Mineralogy. 2. German. 2. Botany. 1 and 2. Drawing. 1. Elec Engineer'g.	4. Algebra. 3. Latin. 2. Pharmacy. 2. Vet Science. 2. Mech. Engineer'g. 1. Botany. 1 and 2. Drawing. 1. Elec. Engineer'g. 1. German.	4. Geometry. 3. Latin. 2. German. 2. Botany. 2 Mech. Engineer'g. 2. Mineralogy. 1 and 2 Drawing. 1. Elec. Engineer'g.	4. Algebra. 3. Latin. 2. Pharmacy. 2. Veterinary Sci. 1 and 2. Drawing. 1. Elec. Engineer'g. 1. German.	Exercises in Elocution.
II. 9-10.	4. English. 3. Chemistry. 2. Civil Engineer'g. 2. Elec. Engineer'g. 2. Mining Engineer'g. 2. Latin. 2. Horticulture (2-3.) 1. Calculus. 1. Botany (Lab'y.) 1. Bacteriology.	4. History. 3. Physiology. 2. Civil Engineer'g. 2 Elec. Engineer'g. 2. Min. Engineer'g. 2. Botanical Lab'y. 1. Chemistry. 1. French. 1. Agriculture. 1. Machine Design.	4. English. 3. Chemistry. 2. Civil Engineer'g. 2. Elec. Engineer'g. 2. Min. Engineer'g. 2. Latin. 2. Horticulture (2-3) 1. Calculus. 1. Pharmacognosy. 1. Botany Lab'y.	4.History 3. Agriculture. 2 Civil Engineer'g. 2. Botany. 2. Elec. Engineer'g. 2. Min. Engineer'g. 1. Chemistry. 1. French. 1. Veterinary Sci. 1. Machine Design.	4. English. 3. Chemistry. 2. Civil Engineer'g. 2. Latin. 2. Mech. Drawing. 2. Min. Engineer'g. 2. Horticulture (2-3) 1. Calculus. 1. Veterinary Sci.	Military Drill.
III. 10-11.	4. Agriculture (3.) 3. English. 2. Physics. 1. Civil Engineer'g. 1. Botany (Lab'y.) 1. Latin. 1. Mech. Engineer'g. 1. Bacteriology. 1. Mining Engineer'g.	4. English. 3. Botany (3.) 3. History. 2. Agricul. Chem. 2. French. 2. Mech. Drawing. 1. Telephone Eng'r. 1. Mental Science. 1. Entomology (1.) 1. Horticult. (2-3.) 1. Elec. Engineer'g. min. & mech.) 1. Animal Industry. 1. Pharmacognosy. 1. Civil Engineer'g.	4 Agriculture (3.) 3. English. 2. Physics. 1. Latin. 1. Civil Engineer'g. 1. Mech. Engineer'g. 1. Botany (Lab'y.) 1. Min. Engineer'g. 1. Engin. Contracts.	4 English. 3. History. 3. Botany (3.) 2. Agri. Chemistry., 2. French. 2. Prac. Machinery. 1. Telephone Eng'r. 1. Mental Science. 1. Entomology (1.) 1. Horticult. (2-3.) 1. Civil Engineer'g. 1. Elec. Engineer'g. min. & mech.) 1. Mech. Engineer'g. 1. Animal Industry.	4. History (3.) 3. English. 2. Physics. 1. Civil Engineer'g. 1. Pharmacognosy. 1. Mech. Engineer'g.	Mechanic Arts. Chemical Lab'y. Electrical Lab'y. Physical Lab'y. Veterinary Clinics. Field Civil and Mining Engineering.

IV. 11-12.	4. Agriculture (3.) 4. Physics (1-2.) 4. Mechanic Arts. 4. Latin (1, 2.) 3. Drawing. 2. Mathematics. 2. Chemistry. 2. Pharmacognosy. 1. English (1-2.) 1. Pol. Econ. (2-3.)	4. Latin. 3. Drawing. 2. Agriculture. 2. Mathematics. 2. Chemistry (Org.) 2. Pharmacognosy. 1. Physics.	4. Physics (1-2.) 4. Latin (3.) 4. Mechanic Arts. 4. Agriculture (3.) 3. History. 3. Botany (3.) 2. Mathematics. 2. Chemistry. 2. Pharmacognosy. 1 English (1-2.) 1. Pol. Econ. (2-3.)	4. Latin. 3. Physiology. 2. Mathematics. 2. Agriculture. 2. Chemistry (Org.) 1 Physics.	4 Physics (1-2.) 4. Mechanic Arts. 4 Latin (1-2.) 3 Drawing. 2. Mathematics. 2. Chemistry. 2. Pharmacognosy. 1. Military Science.	1. Pharmaceutical Lab'y. 3 Mechanic Arts. Chemical Lab'y. Electrical Lab'y. Physical Lab'y. Veterinary Clinics. Field Civil and Mining Engineering.
V. 12-1	4. Drawing. 4. Mechanic Arts. 3. Mathematics. 2. English. 1. Electric Designing. 1. Agriculture. 1. French. 1. Pharmacy. 1. Eng. Chem. and Metallurgy.	3. Mathematics. 2. English. 1. Geology. 1. Pharmacy. 1. Mech. Engineer'g.	4. Drawing. 4. Mechanic Arts. 3. Mathematics. 2. German. 2. Anal. Chemistry. 1 Pharmacy. 1. Eng. Chem. and Metallurgy.	3. Mathematics. 2. English. 1. Geology. 1. Pharmacy. 1. Mech. Engineer'g.	4. Drawing. 4. Mechanic Arts. 3. Mathematics. 2. Military Tactics. 1. Pharmacy.	3. Mechanic Arts. 4. Mechanic Arts. Chemical Lab'y. Electrical Lab'y. Physical Lab'y. Veterinary Clinics. Field Civil and Mining Engineering.
P. M. 2-6	4. Mechanic Arts. 3. Mechanic Arts. 3. Physical Lab'y. 3. Descriptive Geom. 3. Field Work. Agr. 3. Botanical Lab. (3.) 1 and 2. Lab. Chem. 1 and 2. Field Work, Engineering. 1 and 2. Mach. Work. 1 and 2. Elec. Lab'y. 1. Mech. Lab'y.	4. Mechanic Arts. 3. Mechanic Arts. 3. Descript. Geom. 3. Botanical Lab. (3) 2. Mineralogical Lab. 2. Agriculture (1-2.) 1 and 2. History. (mech.) Elec. Lab. Work. Military Drill (*).	4. Mechanic Arts. 3. Mechanic Arts. 3. Physical Lab'y. 3. Descript. Geom. 3. Field Work, Agri. 3 Botanical Lab. (3.) 3. Exercises in Elocution. 1 and 2. Lab. Chem. 1 and 2. Field Work Engineering. 1 and 2. Mach. Work. 1. Mech. Lab'y. Elec. Lab. Work.	4. Mechanic Arts. 3. Mechanic Arts. 3. Descript. Geom. 3. Botanical Lab. (3.) 2. Mineralogical Lab. 2 Elec. Lab. Work. 2. Horticulture Lab'y. 1 and 2. History. 1. Agriculture (1-2.) 1. Telephone Lab'y. Military Drill (*).	4. Mechanic Arts. 3. Mechanic Arts. 3. Descript. Geom. 3. Physical Lab'y. 3. Horticulture (3.) 3. Exercises in Elocution. 2. French. 1 and 2 Lab. Chem. 1 and 2 Field Work Engineering. 1 and 2 Mach. Work. 1. Mech. Lab'y. Elec. Lab. Work.	

Chapel services daily at 7:45 a. m. *From 4:30 to 5:30 p. m.

Numbers prefixed denote classes—1 denotes senior; 2, junior, etc. Numbers affixed—(1), (2), (3), denote terms.

DEPARTMENTS OF INSTRUCTION.

ENGLISH AND POLITICAL ECONOMY.

PRESIDENT THACH.

PROFESSOR WIATT.

ASSISTANT PROFESSOR WEBB.

INSTRUCTOR RUTLAND.

INSTRUCTOR HERNDON.

INSTRUCTOR SHI.

OBJECTS AND METHODS.

In this department the students pursue a systematic course in the English language and literature.

Language is the avenue of approach to all knowledge; the interpretation of words is the fundamental process in education of whatsoever kind. A full course in English is, therefore, considered especially important in the technical courses of study that do not include the ancient classics. Accordingly, the course in English is continued throughout the four years of the college curriculum, three hours a week, and is made obligatory upon all students, with the exception of those pursuing the first two years of the course in Latin. In this extended drill in the grammar and literature of the English language, the endeavor is made to afford a training somewhat equivalent to the ordinary course in the classical languages.

In view of the ill preparation in languages, especially in their mother tongue, exhibited by many of the candidates for admission to the freshman class, it is deemed advisable, for the sake of honest work, to devote a portion of the first year to grounding such students in the principles of grammar.

Especial attention is given to the study of the writings themselves of leading American and British authors, since direct contact with literature is considered more profitable than information merely *about* literature.

All students before classed as regular in any course leading to a degree must conform to all the requirements in English for admission as set forth on page 43.

For requirements as to thesis and as to proficiency in English for certificates and degrees, see pages 51 and 116.

Declamations and themes (or orations) are required of *all regular* students. For details see below.

COURSES OF STUDY.

Freshman Class—Five hours a week; study of grammar, the principles of special and general composition, with frequent brief papers illustrating the laws studied; study of American authors; Irving, Hawthorne, Holmes, Poe, Bryant, Longfellow.

Swinton's Engish Grammar, Lockwood & Emerson's Rhetoric, Kellogg & Reed's English Language.

Sophomore Class—Three hours a week; study of style, analysis of selections of prose and poetry; frequent essays on historic and literary themes.

Rhetoric, Genung's Rhetorical Analysis, Syle's From Milton to Tennyson.

Junior Class—Three hours a week; lectures on the history of English literature, critical study of English classics, essays.

Pancoast's History of English Literature; Pancoast's Standard English Poems, Macaulay, Carlyle, DeQuincey, etc.

Senior Class—Two hours a week, first term. Principles of Criticism, Shakespeare's Julius Cæsar, Hamlet, etc. Dowden's Shakespeare, etc.

THEMES AND ORATIONS.

Theory without practice is as fruitless in the study of English as in any other department of study. Practical work is indispensable to the successful teaching of English.

Besides numerous brief papers illustrative of the subject matter of the text-books, set themes or orations are *required of all students;* For the freshman class *ten* themes a year; *ten* for the sophomore; for the senior and junior classes, *three* orations each.

DECLAMATION.

The old practice of committing pieces to memory for "speaking" is cultivated as a means, both of training in the art of thinking on the feet, and of storing the mind with the diction of finished specimens of English style.

The sophomore class is heard weekly throughout the year in sections of ten, once for an hour and a half in rehearsal, afterwards in the study-hall before the body of students.

The senior and junior classes also deliver their orations in public.

PHILOSOPHY AND POLITICAL ECONOMY.

The senior class pursue the study of intellectual science, twice a week, through the year; and political economy twice a week, during the last two terms. The instruction in this department is by lectures in combination with text-books.

Intellectual Science—Psychology defined. Value in relation to moral culture, education and natural sciences. The relation of the soul to matter. The arguments of the materialist. Counter arguments. The faculties of the soul. The nature of consciousness. Sense Perception. Fancy. Imagination. Nature of conceptions. Language. Judgment. Reasoning. Deduction. Induction, etc. *Porter's Intellectual Science.*

Political Economy—Value; production of wealth; land; labor; capital; division of labor; distribution of wealth; wages; trades-union; tariff; education, etc. *Lectures by Professor. Ely's Outlines of Economics.*

A Post-graduate course has also been established in English. The following courses have been given:

(1) *Shakespeare*—Hamlet, Othello, Macbeth, Merchant of Venice, As You Like It, Henry IV., Part I., Richard III., King John.

(2) *Dryden—Poetical Works* (Christie); Essay on Dramatic *Poesy* (Thomas Arnold); *Essay on Satire, etc.*, (Yonge); Saintsbury's *Life of Dryden.*

Pope—Poetical Works (Ward); Satires (Pattison); Stephen's *Life of Pope;* Gosse's *From Shakespeare to Pope* and 18*th Century Literature.*

(3) *English Literature of the Eighteenth Century;* Addison, Pope, Gray, Goldsmith, Burns, Cowper, Burke.

(4) *American Literature*: Longfellow, Lowell, Poe.

(5) *The Rise and Development of the English Essay*: Bacon, Addison, Steele, Swift, Johnson, Goldsmith, Macaulay, DeQuincey, Lamb, Carlyle.

(6) *Milton—Poetical Works* (Masson); Life, Pattison, Brooke.

MATHEMATICS.

PROFESSOR CRENSHAW.

ASSOCIATE PROFESSOR WILSON.

ASSISTANT PROFESSOR PATRICK.

ASSISTANT PROFESSOR HILL.

INSTRUCTOR STOKES.

The subjects taught in the different classes in this department are as follows:

FRESHMAN CLASS. Algebra to logarithms, geometry (completed), original solution of exercises.

SOPHOMORE CLASS. Advanced Algebra, plane trigonometry, triangulation, surveying, mensuration.

JUNIOR CLASS. Analytic geometry, differential calculus.

SENIOR CLASS. Differential and integral calculus.

Two objects are sought to be obtained: First, mental discipline; second, a thorough knowledge of the principles of pure mathematics and their practical applications.

Theoretical and practical instruction is given to the sophomore class in land surveying, mapping, plotting and computing areas, etc., also in the theory, adjustment and use of instruments, and triangulation.

The class, in sections of six or eight, devote three afternoons a week during the second and third terms to field practice.

The completion of this course, common to all students, lays the foundation for the pure and applied mathematics of the mechanical and engineering courses. Analytic geometry, descriptive geometry, and calculus are pursued in the engineering courses. Especial attention is given to their practical applications.

During the entire course, instruction in text-books in supplemented by lectures. Solutions of original practical problems are required of the student, to make him familiar with the application of principles and formulas.

TEXT-BOOKS.

Wentworth's Geometry, Fine's Algebra, Wentworth's Trigonometry and Surveying, Tanner & Allen's Analytic Geometry, Osborne's Calculus, Granville's Calculus, Johnson's Differential Equations, Osborne's Problems.

CIVIL ENGINEERING AND DRAWING.

PROFESSOR LANE.

ASSISTANT BOYD.

The special studies in this department begin in the junior class, and require a good knowledge of algebra, geometry, trigonometry, and analytical mechanics. They are as follows:

Junior Class—Simple, compound, reversed and parabolical curves, turnouts and crossings, leveling, gradients, setting slope stakes, etc.

Special attention is paid in this class to the location, construction, drainage and maintenance of country roads; and the various pavements and foundations for the same.

Senior Class—Stresses of different kinds, beams and girders of different kinds, columns, rivets and pins, determination of stresses by analytic and graphic methods, masonry, masonry dams and retaining walls, masonry arches, foundations, timber, metals, natural and artificial stones, bridges, trussed roofs and floors, highways, the pressure and flow of water, water supply, sewerage.

Theory and practice are combined in both classes.

TEXT-BOOKS.

Junior Class—Henck's Field Book for Railway Engineering, and Byrne's Highway Construction.

Senior Class—Fiebeger's Civil Engineering, and Von Ott's Graphic Statics.

DRAWING.

All students in the sophomore and freshman classes are required to take drawing; but only those in civil engineering in the junior and senior classes.

The freshman class are taught linear drawing. The sophomore class are instructed in the principles of orthographic and isometric projections, shades, shadows, perspective and tinting. In the junior class the instruction embraces a more extended course in the above; also sketches of tools and machines, and plans, elevations and cross sections of buildings. The senior class make topographical drawings and drawings of machines, roofs, bridges, etc., to different scales, and blue prints. Plans, profiles and sections of railroad surveys complete the instruction in this department.

TEXT-BOOKS.

Freshman Class—Kitchener's Geometrical Note Book, Davidson's Linear Drawing, and Davidson's Model Drawing.

Sophomore Class—Davidson's Projections, and Davidson's Perspective.

Junior Class—Davidson's Building Construction, Davidson's Drawing for Mechanics and Engineers, Keuffel & Esser's Alphabet.

Senior Class—French, English and American plates belonging to the College, Keuffel & Esser's Alphabet.

HISTORY AND LATIN.

PROFESSOR PETRIE.

ASSISTANT DENSON.

HISTORY.

In this department the aim is not so much to memorize facts as to understand them. Strong emphasis is laid on the fact that history is not a succession of isolated facts, but a progressive whole, each event being at once the cause and the effect of other events. The students are taught to investigate the growth of ideas and institutions, the rise and progress of great historical movements, and the reciprocal influences of men and circumstances. Frequent use is made of diagrams, photographs, charts and maps, with which the department is well equipped. Instruction is given by text-books, lectures and class discussion, but a constant effort is made to stimulate to wider reading and research in the library.

In the freshman class, the subjects studied are the United States, Alabama, and England. The first term (two hours per week) is devoted to the history and government of the United States; the second term (two hours per week) to Alabama, and the third term (three hours per week) to the history of England.

In the sophomore class (three hours per week until March) the subject studied is general European history.

HISTORICAL LABORATORY.

In the junior and senior classes opportunity for special work in United States history is given those students of the General Course who elect it as laboratory work, and to many others who are properly qualified. The chief object kept in view is training in historical research and in the formation of independent but careful opinions based on the original sources of information, as well as on the standard authorities. Emphasis is laid on the importance of securing proper material for investigation and every incentive is given to the collection and use of new documents, papers and letters illustrative of Southern, and especially Alabama history.

The method of work is as follows: Informal lectures are given on important and suggestive points, as: The cause of the Revolution; the Constitutional Convention; the War of 1812; the Missouri Compromise; the Monroe Doctrine; Texas and Mexico; the Compromise of 1850; the Kansas Struggle; the Dred Scott Decision; Secession. After each lecture topics connected with it are assigned to the students with an outline of the points to be investigated. They report their results to the class and a discussion follows. The final results are collected by each student according to his own judgment in his note-book, which is then passed in to the professor for correction and suggestion.

Graduate students are expected to take part in the junior and senior discussions and in addition will meet with the professor for conference in reference to their work. Those who take history as their major subject are expected to devote a large part of their time to original research upon some topic upon which they can consult the original sources of information. They are also required to pursue a prescribed course of reading as indicated below:

TEXT-BOOKS.

Freshman Class—Hart's Formation of the Union; Wilson's Division and Reunion; Brown's History of Alabama; Montgomery's English History.

Sophomore Class—Myers's General History.

Junior and Senior Classes—Moore's American Congress.

Graduate Course—Wilson's History of the American People, Fiske's Critical Period, Burgess's Middle Period, Burgess's Reconstruction and the Constitution.

LATIN.

The objects kept in view in this department are: An accurate knowledge of the forms and syntax; a familiarity with Latin words, their etymology and their English derivatives; an appreciation of Latin literature and an intelligent conception of Roman history and civilization both in themselves and in their effect on the modern world.

A systematic course of instruction is given in the forms and syntax. These are taught both deductively from a grammar and inductively from the text read. Translation is constantly practiced, sometimes at sight, sometimes after being assigned for preparation. English passages based on a familiar author or illustrative of special constructions are put in Latin, both orally and in writing. Great emphasis is laid on the etymology of the words in the text read.

In connection with every author studied in class a course of reading in English is prescribed descriptive of his life, work and times. The historical setting and the literary value of his writings are carefully discussed and frequent comparisons are made with modern authors.

In the freshman and sophomore classes the study of the language is the chief point. In the higher classes a broader view is taken. The junior class makes a special study of Roman history and Roman historians. The senior class studies Roman poetry and Roman life.

TEXT-BOOKS.

Freshman Class—Allen & Greenough's Grammar, Exercises, Nepos, Sallust or equivalent, Cicero.

Sophomore Class—Cicero, Allen & Greenough's Grammar, Bennett's Latin Composition, Guerber's Mythology.

Junior Class—Livy, Tacitus, Allen & Greenough's Grammar, Exercises, Botsford's History of Rome.

Senior Class—Horace, Plautus, Preston & Dodge's Private Life of Romans, Latin Literature, Allen & Greenough's Latin Grammar.

CHEMISTRY.

PROFESSOR ROSS.

ASSISTANT PROFESSOR HARE.

INSTRUCTOR RANSOM.

INSTRUCTOR BRAGG.

ASSISTANT WALDROP.

Instruction in this department embraces:

1. A course of lectures in general chemistry.
2. A course of lectures in industrial and engineering chemistry.
3. A course of lectures in organic chemistry.
4. A course of lectures in metallurgy.
5. A course of lectures in agricultural chemistry.
6. A course of lectures in theoretical chemistry.
7. Systematic laboratory work in connection with each course of lectures, for the practice of chemical analysis and chemical research.

1. Course in general chemistry: This consists of a series of lectures (three per week) extending throughout the entire session, and includes a discussion of the fundamental principles of chemical philosophy in connection with the history, preparation, properties and compounds of the metallic and non-metallic elements, with the main facts and principles of organic chemistry. In this course the more common applications of chemistry to the arts and manufactures are discussed. The apparatus used for experimental illustration is extensive, containing the newest and approved improvements necessary for presenting the subject in the most attractive and instructive form.

REFERENCE BOOKS.

Remsen's College Chemistry, Newth, Holleman, Roscoe & Schorlemmer, Chemical Journals.

2. Lectures in industrial chemistry (four per week) extend throughout the session, and include a discussion in detail of the process and chemical principles involved in the most important applications of chemistry in the arts and manufactures to the preparation of materials for food and drink, for clothing, shelter, illumination, cleansing, purifying, writing, printing, etc.

These lectures are amply illustrated by means of suitable specimens of raw materials and manufactured products, together with models and diagrams.

A course of lectures (two hours per week) on engineering chemistry is given during the last half of the senior year, especial attention being given to the study of the construction and equipment of chemical plants devoted to the manufacture of the more important chemical products. The study of texture chemistry will also be included in this series of lectures.

Excursions to various chemical and metallurgical plants during the course of the year will aid in familiarizing the student with the practical details of the operation of the leading industries.

REFERENCE BOOKS.

Thorp's Industrial Chemistry, Wagner's Chemical Technology; Muspratt's Chemistry as applied to Arts and Manufacturing, Ure's Dictionary, Watt's Dictionary, Sadtler's Industrial Organic Chemistry, Blount & Bloxam's Chemistry for Engineers and Manufacturers.

3. Course in organic chemistry: Instruction in this subject embraces lectures and recitations (two hours per week) throughout the junior year, upon the leading facts and principles of the chemistry of the carbon compounds, and includes a study of the methods of preparation of the more important compounds, their properties, and their structural and stereochemical relations.

TEXT AND REFERENCE BOOKS.

Remsen's Organic Chemistry, Richter's Organic Chemistry, Gatterman's Practical Method of Organic Chemistry.

4. Course in metallurgy: This consists of lectures and recitations (two per week, during the senior year) upon the more important metals, such as iron and steel, copper, lead, tin, silver, gold, mercury, zinc, etc. It includes a discussion of the physical and chemical properties of the metals and their alloys, the ores and their treatment, and the processes by which the metals are obtained from the ores, with chemical reactions involved.

5. Course in agricultural chemistry: This consists of lectures on chemistry in its application to agriculture (two per week, during first and second terms), and includes a thorough discussion of the origin, composition and classification of soils, the composition and growth of plants, the sources of plant food and how obtained, the improvement of soils, the manufacture and use of fertilizers, the chemical principles involved in the rotation of crops, the feeding of live stock, and the various operations carried on by the intelligent and successful agriculturist.

6. Course in theoretical chemistry: Two lectures per week in this subject will be given throughout the senior year, especial attention being given to the more modern phases of chemical theory.

REFERENCE BOOKS.

Snyder's Soils and Fertilizers, Snyder's Chemistry of Plant and Animal Life, Johnson's How Crops Grow, and How Crops Feed, Lupton's Elementary Principles of Scientific Agriculture, Johnson and Cameron's Elements of Agricultural Chemistry, Storer's Agriculture in Relation to Chemistry, scientific journals, reports of the United States Department of Agriculture, and the bulletins and reports of the various home and foreign agricultural departments and stations.

7. The course of systematic laboratory work: This course of practical work in the laboratory is carried on in connection with each course of lectures. In the junior year the work embraces the practical operations of chemical synthesis and analysis, and includes the preparation of non-metallic elements and their most important compounds, in addition to a systematic study of the metals and their compounds, their separation and identification. In the senior year students pursue work in quantitative analysis, including analysis of fertilizers, soils, coals, ores, iron and steel, sugars and sugar products, feed stuffs, mineral waters, fluxes, slags, cinders, furnace gases, etc., the courses of work being varied somewhat to suit the individual object of the student.

In the course of Pharmacy, instruction in Toxicology and Toxical Analysis is given during the last term of the senior year.

All students during the sophomore year are required to take two hours per week of practical laboratory work, instruction being given in the simplest methods of chemical manipulation. A portion of this time may be devoted to lectures and class-work in General Chemistry.

The laboratories, which are open from 9 A. M. to 5 P. M., during six days in the week, are amply supplied with everything necessary for instruction in chemical manipulation in qualitative and quantitative analysis, and in the methods of prosecuting chemical research. Unusual facilities are offered to students who wish to devote their time to the special study of practical chemistry.

Each student on entering the chemical laboratory is furnished with a work table, a set of re-agent bottles and the common re-agents and apparatus used in qualitative and quantitative analysis.

At the close of the session he will be credited with such articles as may be returned in good order; the value of those which have been injured or destroyed, will be deducted from his contingent fee.

In addition to the laboratory work above described it is designed to give a short course of laboratory work in industrial chemistry, in which the student will apply upon a small scale the principles involved in the processes of some of the more important chemical industries.

Advanced students are afforded ample facilities for work in organic preparations and organic analysis.

TEXT-BOOKS.

In qualitative analysis—Jones, Sellers, Fresenius, Plattner.

In quantitative analysis—Fresenius, Cairns, Sutton, Rose, Blair's Analysis of Iron and Steele, Rickett's Notes on Assaying, Mitchell's Manual of Practical Assaying, Stillman's Engineering Chemistry, Lord's Metallurgical Analysis.

In agricultural chemical analysis—Official methods of the Association of Agricultural Chemists, Wiley's Principles and Practice of Agricultural Analysis.

CHEMICAL LABORATORY.

[For description of building see page 16.]

The chemical apparatus recently purchased for the laboratory consists of a full supply of the most approved instruments for practical work and investigation. The building is supplied with water and gas and every appliance required to meet the demands of modern scientific instruction and research. In addition to the apparatus usually supplied to first-class laboratories, there have been imported a new and improved Schmidt and Hensch's polariscope, eight short-arm balances of latest pattern, Bunsen's spectroscope, Abbe refractometer, and other instruments for delicate and accurate work.

PHYSICS.

PROFESSOR SOUTHALL.

ASSISTANT EWING.

The complete course of Physics extend over four years, and is designed to give, as far as possible, an adequate and correct idea of the methods of Physical Science, and to lay the foundation for subsequent more advanced work if (as must often be the case, especially in an institution such as this) the student desires to pursue the subject further or intends to engage in any of the great engineering professions of which Physics is so important a basis. The lectures are illustrated by experiments; the students are required to work numerous problems and exercises; recitations are held each week.

FRESHMAN COURSE.

This course is very elementary, and continues only during the first and second terms. The object in view is to make the student familiar with the fundamental principles of Physics. The class meets three times a week, (The text-book will be announced later.)

SOPHOMORE COURSE.

This is a laboratory course, and deemed especially important for students of engineering, and of great advantage to such as intend to pursue the subsequent higher work in this department. The laboratory exercises are carefully selected, being designed to illustrate the fundamental methods and principles of Physics, and, although the work is necessarily more or less elementary, at the same time such accuracy and precision as the conditions admit of are insisted upon, so that the student is expected to acquire a fairly correct idea of modern experimental investigation. The exercises consist of the fundamental measurements of Length, Moss, Density, moduluses of Elasticity, pendulum experiments, etc., together with a few more advanced experiments in connection with the similar properties of Liquids and Gases, and the general phenomena of Heat and Sound. The student is required to write a careful report of such experiments, entering the results of observation in tabular form, and plotting a curve wherever practicable; also describing the object, apparatus, and method, and noting sources of errors, etc. Great stress is laid upon this requirement, and reports are not accepted unless they indicate that the student has done his best in every way. Four hours per week throughout entire year. (Text-book will be announced lated.)

JUNIOR COURSE.

Lectures and recitations three hours a week throughout entire session. This is a more advanced course in general physics required of all candidates for a degree. The only preparation needed is a good working knowledge of mathematics through plane trigonometry. The course includes a series of illustrated lectures on the principles of Dynamics, as applied to Solids, Liquids, and Gases, Sound, and Heat, in the order named. Written exercises are required each week. (Textbook to be announced later.)

SENIOR COURSE.

Lectures and recitations two hours a week throughout the entire session. This course, although more advanced than the junior course, and occasionally employing the higher Mathematics, is a continuation of the work of the previous year. It might be called a course in Elementary Mathematical Physics, and the subjects, varying from year to year, that are treated in the lectures are such branches of Physics as Kinematics and Dynamics, Thermodynamics, Electricity and Magnetism, Geometrical and Physical Optics, etc. The student is encouraged to solve difficulties for himself, and to read the standard treatises and original memoirs on the various topics that come under discussion.

The last term of the session will generally be devoted to a brief course of lectures in *Descriptive Astronomy.*

The text-books in this class vary with the changing subjects, and will be announced by the professor each year.

GRADUATE COURSE.

This course will be designed to meet the needs of the students who take it. It will include both theoretical and experimental work in more advanced Mathematical Physics, or in Analytical Mechanics.

POWER HOUSE.

MODERN LANGUAGES.

PROFESSOR WIATT.

The chief aim in this department is to give the student a thorough and accurate knowledge of the elementary principles of the subjects taught, and to enable him to read with facility the ordinary French and German at sight. To train the ear, acquire a correct pronunciation and some facility in speaking, all recitations are supplemented, as far as practicable, by oral exercises in the languages themselves.

The following regular courses are given in French and German:

French—First Year: Three recitations a week. During this year the principal object is to acquire a knowledge of the elements of grammar and a correct pronunciation, together with a facility in translating ordinary French. Reading is begun at an early stage, and the principles of grammar are illustrated and impressed by frequent exercises in rendering English into French.

Second Year: Three recitations a week. During this year almost the same line of work is pursued as that begun the previous year. More difficult and varied French is read, and instruction is given upon the laws of grammar, the construction of the language, and the history of the literature. Special attention is given to sight translation.

German—Two Years: Three recitations a week the first year, three a week the second year. In this course the aim and the methods are similar to those in French.

The students in this department will meet the professor twice a week, from 4 to 5 p. m. during the *first term*, and the *third term*, for exercises in conversation in French and German.

TEXT-BOOKS.

FRENCH—*First Year*: Edgren's Grammar and Locard's Supplementary Exercises. Super's Reader.

Second Year: Corneille, Racine, Molière, selected modern French plays, Duval's Histoire de la Litterature Francaise, Fraser and Squair's French Grammar, French Composition.

GERMAN—*First Year*: Joynes-Meissner's Grammar, Huss's German Reader.

Second Year: Schiller, Lessing, selected modern German plays, German Lyrics, Bernhardt's Deutsche Litteraturgeschichte, Whitney's German Grammar, Harris's German Composition.

GRADUATE COURSE.

This course is offered for the benefit of those students who wish to pursue the study of those subjects beyond the scope to which a two-year course necessarily limits them. Here, in addition to the authors studied in the lecture room, a wide and extensive reading of authors and literature is prescribed.

ELECTRICAL ENGINEERING.

PROFESSOR DUNSTAN.

ASSISTANT PROFESSOR HILL.

INSTRUCTOR STOKES.

INSTRUCTOR THOMAS.

ASSISTANT MILLER.

JUNIOR YEAR.

(*For Students in Electrical and in Mechanical Engineering.*)

First Term: Elements of the theory of electricity and magnetism with special reference to industrial applications, four hours per week. To begin this course a student must have a good working knowledge of mathematics through plane trigonometry.

Second Term: Incandescent Lighting. Systems of distribution, calculation of conductors for various systems, station appliances, station design and operation, wiring, insurance rules. Four hours per week.

Third Term: Arc lighting, line tests, arc lighting apparatus, mechanism of various kinds of arc lamps, adjustments and care of the same. Four hours per week.

JUNIOR LABORATORY WORK.

Four hours per week are devoted to electrical measurements, calibration of instruments, testing of various kinds, usually some wiring and construction work.

SENIOR YEAR.

(For Electrical Engineering Students.)

First Term: Direct current machinery, theory, operation, and design. Five hours per week. Especial attention is paid to the types of machinery most commonly found in American stations and for this purpose extensive files of manufacturers' catalogues and bulletins are kept on hand. At the end of the course each student is required to design a direct current dynamo or motor to given specifications, and make the necessary drawings of the same.

Second Term: Alternating Currents. Theory of alternating currents, use of graphical and vectorial methods of calculation, general discussion and study of polyphase systems, five hours per week.

Third Term· Alternating current machinery, alternators, transformers, induction motors, synchronous motors, rotary converters and the calculation of transmission lines. Five hours per week. Design of an alternator to given specificaitons.

SENIOR YEAR.

(For Mechanical Engineering Students.)

First Term: Direct current machinery, theory and operation, two hours per week.

Second Term: Alternating currents, two hours per week.

Third Term: Alternating current machinery, two hours per week.

SENIOR YEAR.

(For Mining Engineering Students.)

First and Second Terms: Elementary electrical engineering, two hours per week.

SENIOR LABORATORY WORK.

Four hours per week for entire session. The particular work given depends upon whether the student is making a specialty of electrical or mechanical engineering. In general the work consists of the study and test of various kinds of direct and alternating current machinery, efficiency and regulation tests, the determination of various constants, and the general care and operation of electrical machinery.

TELEPHONE ENGINEERING.

(For Electrical Engineering Seniors.)

Two hours per week for the entire Senior year are devoted to this subject taking up in detail various systems, appliances, lines, instruments, difficulties, etc. Laboratory work two hours per week.

CONTRACTS AND SPECIFICATIONS.

(For Seniors in both Electrical and Mechanical Engineering.)

One hour per week during the third term is devoted to the subject. The intention is to make the course thoroughly practical and useful. The department has on file a large number of specifications for various engineering projects and they are constantly referred to in the course.

POST GRADUATE COURSE.

To graduates more advanced courses are offered, these courses varying from year to year according to the needs of those taking them. During the present session courses have been given in contracts and specifications and in power transmission.

Encouragement is offered to advanced students for conducting original investigations and an opportunity is taken to stimulate a spirit of scientific enquiry. Courses of reading are suggested to such students in connection with their experimental work.

The rapid extension of the lighting and power service gives unusual opportunities for practical work in wiring and the installation of electrical machinery. Most of this work is done by students and great benefit is derived by them from it.

MECHANICAL ENGINEERING AND MECHANIC ARTS.

PROFESSOR WILMORE.

ASSISTANT PROFESSOR FULLAN.

ASSISTANT PROFESSOR HILL.

INSTRUCTOR STOKES.

INSTRUCTOR THOMAS.

ASSISTANT FRANCIS.

ASSISTANT MILLER.

The equipment available for carrying on the work in the shops and laboratories of this department is listed and described on pages nine and thirteen of this catalogue. The nature of the work and the courses pursued are herewith set forth in detail.

FRESHMAN CLASS.

SHOP WORK.

The following courses of shop work are required of all members of the Freshman class unless excused, for satisfactory reasons by the Faculty. The time required is six hours per week, in three periods of two hours each.

1. *Carpentry.*—A course of carpentry or hand work in wood, covering one term. The lessons include instruction in the nature and use of tools, instruction and practice in shop drawing, elementary work with the plane, saw, and chisel, the construction of different kinds of joints, timber splices, cross joints, mortise and tenon, mitre and frame work, and dove tail work,

comprising the different joints used in cabinet work, and examples of framing roof trusses. Students who have had previous experience in the use of tools or who show special proficiency, are given work of an advanced character.

II. *Wood Turning.*—A course in wood turning covering one term. The instruction includes the nature and use of the lathe and the tools, and the lessons comprise plain, straight turning, caliper work to different diameters and lengths, simple and compound curves, screw plate and chuck work, hollow and spherical turning.

III. *Pattern Making.*—A course in pattern making covering one term. This work includes a variety of whole and split patterns from suitable core boxes, giving the students familiarity with the form and construction of patterns for general moulding. These patterns are intended to be used by the students in their subsequent work in the foundry.

SOPHOMORE CLASS.

I. *Descriptive Geometry.*—Two hours per week during the year. In this course, theory and practice are combined with the purpose of training the student in the graphical expression of ideas. The instruction includes problems relating to the point,, line, and plane; to tangents and normals; and to cylindrical, conical, and warped surfaces, and is intended to develop in the mind of the student a clear concept of magnitudes in space.

II. *Mechanical Drawing.*—Three hours per week during the second and third term. May be taken by Sophomores in place of the perspective drawing prescribed in the course in Civil Engineering, and is recommended to those who wish to pursue courses in Machine Design. The work includes additional practice in orthographic projection, machine drawing from sketches, and free hand lettering.

III. *Shop Work.*—A course of forge work in iron and steel, four hours per week, extending through half the year. Required of all Sophomores. A text-book is used from which is learned something of the characteristics of the metals and the best methods of working them. The lessons are so arranged as to make the student familiar with the handling of the tools and the successive steps in working metals by hand. Exercises in drawing, upsetting and bending, cutting, punching, and welding by various methods, are given together with a course in steel forging, including hardening, tempering, and case hardening.

IV. *Shop Work.*—A course in moulding and casting in iron and brass, four hours per week for half the year. Required of all Sophomores except those taking Agriculture.

The work for the most part consists of small articles, such as light machine parts and the stock pieces used for the exercise work in the machine shop. A sufficient variety is introduced for the student to acquire a good general knowledge of the usual methods and appliances used in light foundry work. Most of the work is in green sand in two part flasks, but some core work and more complicated work is introduced to illustrate the processes, as well as to furnish the castings for the advanced work in the machine shop. Instruction is given in operating the cupola, and from time to time lectures and recitations are held on the metallurgy and working of the metals used in the industrial arts.

JUNIOR CLASS.

I. *Kinematics of Machinery.*—Four hours per week during the first term. Required of all juniors in the courses of Electrical and Mechanical Engineering. Under this head machines are analyzed and their elementary combinations of mechanism are studied. The communication of motion by gear wheels, belts, cams, screws, and link work, the different ways of obtaining definite velocity ratios and definite changes of velocity in machine parts, parallel motions and quick return motions, as well as the designing of trains of mechanism for various purposes, together with the theoretical forms of teeth for gear wheels to transmit the motion of these trains, are investigated under this subject.

II. *Elementary Mechanics.*—Three hours per week during the second term. Required of all juniors in the courses of Mechanical and Electrical engineering. The fundamental laws of mechanical science are studied, while special attention is given to the practical applications of these principles to engineering work.

III. *Strength of Materials.*—Three hours per week during the third term. Required of all juniors in the courses of Electrical engineering. The general properties and characteristics of cast iron, wrought iron and steel, are studied, and an elementary treatment of the strength of these materials in the form of beams, girders, columns, and shafts is given. The text book is supplemented by lectures and many practical problems are worked out.

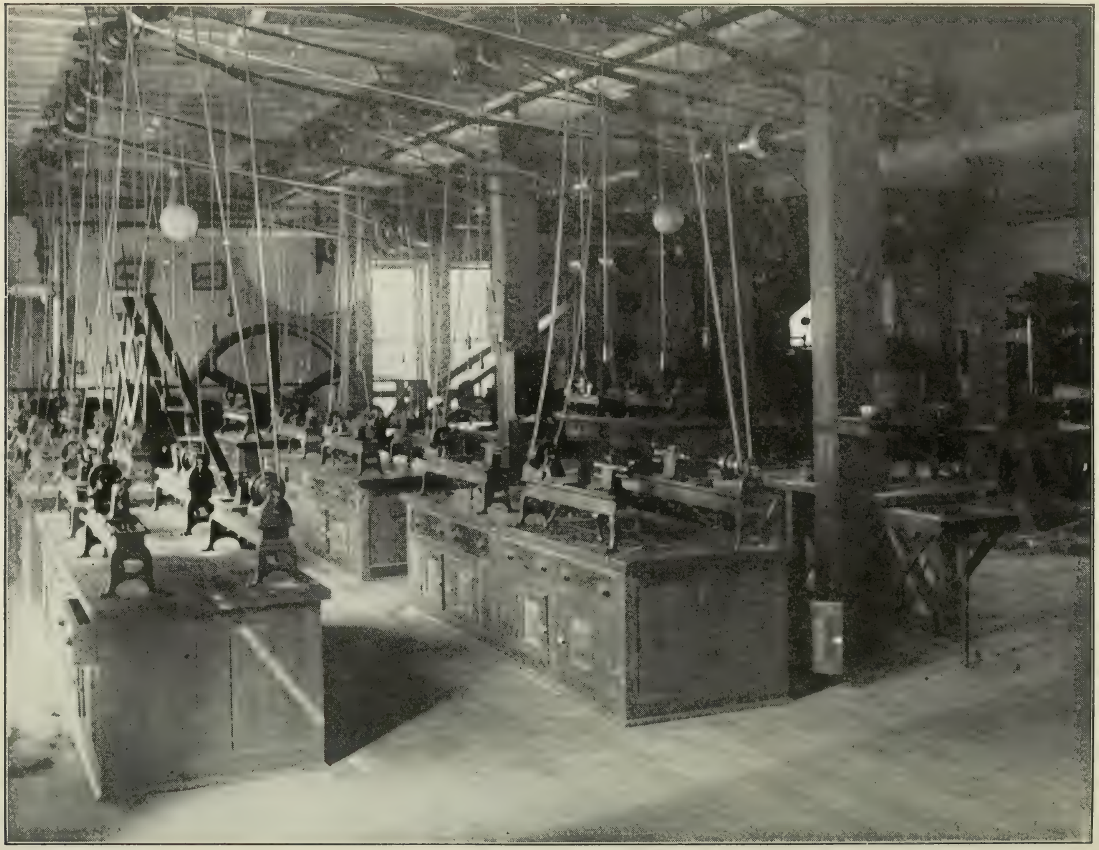
IV.—*Heating and Ventilation.*—Three hours per week during the third term. Required of all juniors in the course of Mechanical Engineering. The different methods of heating and ventilating buildings are treated. A study is made of the relative efficiency of hot water, steam, and warm air, as mediums for heating different kinds of buildings, and special attention is given to the design and operation of healthful heating systems for residences.

V. *Practical Mechanics.*—One hour per week during the year. Required of all juniors and special students who take machine shop work. The instruction consists of recitations and lectures on machine shop work. The construction, use and limitations of the various machine tools, the forms of cutting tools and methods of grinding them, and the form and use of jigs and gauges, are studied, together with instruction in machine shop management, and time and costs-keeping.

VI. *Mechanical Drawing.*—Four hours per week during the year. Required of juniors in the courses of Mechanical and Electrical Engineering. During the first part of the year instruction is given in the conventional methods of representing standard materials, and in the design of fastenings and machine parts. Later on scale drawings of simple machines are made from dimensioned sketches which each student makes for himself from an actual machine. Free hand lettering receives special attention, also tracing and blue printing. All the instruction is intended to familiarize the student with modern drawing office methods.

VII. *Shop Work.*—Six hours per week during the year. Required of juniors in the courses of Mechanical, Electrical, and Mining Engineering and is elective for students in the course of Civil Engineering. This work is divided into two parts:

(a). A course of chipping and filing. The lessons comprise work on cast and wrought iron, and consist in chipping



WOOD ROOM.

to line on flat and curved surfaces, key seating, filing and finishing to line, surface filing, slotting, pin and screw filing, and surface finishing with scraper.

(b). A course in machine work. The materials worked include cast iron, wrought iron, steel, and brass. Exercises are given in turning to various diameters and lengths, taper turning, facing with chuck and face plate, drilling in the lathe and drill press, reaming, boring, screw cutting in lathe and with taps and dies. Practice is given in working the planer, shaper, and milling machine. In the last part of the year some work in tool making is given, such as making taps, reamers and milling cutters. Some sort of construction or repair work for the department is always on the shop floor, and students who are well advanced in their work have opportunity to gain additional practice and experience by assisting with this.

All shop work is done from blue prints and blackboard sketches. For the preliminary exercise work, special instruction sheets are prepared and given out to each student with the stock for the exercise. These sheets explain in detail each step in the process of producing the exercise, and are intended to supplement the individual instruction of the instructor. In the construction work it is the purpose to select some simple machine and build two or more of them on the interchangeable system. Jigs and templates are designed and built to accomplish this result as far as possible. A system of time keeping is in force in the shop. At the end of the week, each student makes out his time card, describing the work he has done during the week and giving the number of hours spent on each job.

SENIOR CLASS.

I. *Mechanical Engineering of Power Plants.*—Five hours per week for first term. Required of seniors in courses of Mechanical and Electrical Engineering. The work of this course consists in a study of the practical applications of steam machinery. It is believed that a thorough knowledge of the apparatus in actual practical use is the best preparation a student can have for the study of the theory, and to that end, the different types of engines, boilers, pumps, condensers, and other auxiliary apparatus are taken up and studied in detail, and the advantages and disadvantages of each discussed. Extensive files of manufacturers' catalogues are kept and the technical papers and magazines in the library are freely used in order to keep in touch with the latest and best practice in engineering work.

II. *Thermodynamics.*—Five hours per week of the second and third terms. Required of seniors in the courses of Mechanical and Electrical Engineering. The subject is first studied from the ideal standpoint, and later the applications are made to hot air engines, gas and gasoline engines, and steam engines, and also to air compressors and refrigerating machines. The temperature-entropy method of analysis is used in explaining heat transfers, and in general, graphical methods are used in preference to analytical ones when they can be made to serve the purpose equally well. Included in this course will be given instruction in indicator practice and the interpretation and working up of indicator diagrams from steam engines, gas engines, air compressors, and refrigerating machines.

III. *Steam Boilers.*—Two hours per week for first term. Required of Seniors in course of Mechanical Engineering. The different types of boilers with the conditions under which each is most efficient, are discussed. A special study is made of combustion and the design of settings to secure good combustion, and attention is given to corrosion, wear and tear, and the prevention of scale.

IV. *Gas Engines.*—Two hours per week for the second term. Required of seniors in the course of Mechanical Engineering. This is a descriptive course and gives attention to the construction and operation of gas engines and gas producers as used in modern power plants. The rapid development of the gas engine in recent years warrants a more extended treatment of this subject than can be given in the usual course in Thermodynamics, and the above is offered as supplementary thereto. The subject will be presented by lectures, student reports on current articles in technical publications, and by catalogues and drawings.

V. *Materials of Construction.*—A sixty hour course, five hours per week, beginning with the second term. Required of Seniors in the course of Mechanical Engineering. Attention is given to the manufacture, the properties, and the uses of the materials which are employed in engineering construction. Iron, steel, cement, reinforced concrete, and wood are taken up in detail and studied with reference to their adaptability to different kinds of work. Many practical problems are solved, and illustrations of engineering structures are studied and discussed. Some work in the strength and design of structures will be given in connection with this course to give the student facility in the use of the laws and formulae studied.

VI. *Hydraulics.*—A forty hour course, five hours per week, following course V. required of seniors in the course of Mechanical Engineering. In this course will be studied the fundamental laws of the flow of water and the application of these laws in the development of water power and the installation and operation of municipal water supply.

VII. *Machine Design. Lectures.*—One hour per week during the year. Required of seniors in course orf Mechanical Engineering. These lectures are intended to cover the general instructions to the students, such as the selection of materials for different machine parts, the rules for proportioning parts to secure strength, symmetry, and cheapness of manufacture, and the best methods of making, recording and preserving notes and calculations incident to the design of a complete machine. Much valuable engineering data in the form of notes and tables will be given.

VIII. *Machine Design, Drawing.*—Six hours per week during the year. Required of seniors in the course of Mechanical Engineering. This is a continuation of the junior course in mechanical drawing. Original problems involving the design of complete machines to work under specified conditions, are assigned, and the student develops the ideas in the form of sketches. These are submitted to the instructor for criticism, and are afterwards embodied in complete detail and assembled drawings. Special attention is given to the strength of the parts, to the harmonious or symmetrical appearance of the complete machine, and to the details as regards the practical manufacture.

IX. *Machine Design. Drawing.*—Two hours per week during the year. Required of seniors in the course of Electrical Engineering. The work given and the methods pursued are similar to those described in course VIII. just preceding, but the amount of work required is reduced in proportion to the amount of time given.

X. *Laboratory.*—Four hours per week during the year. Required of seniors in the course of Mechanical and Electrical Engineering. The laboratory work is arranged as far as possible to bring the student into contact with engineering appliances under practical working conditions. Careful work and accurate and complete reports are insisted upon. The course includes the calibration of instruments, tests of engines, boilers, pumps, and gasoline engine, together with the standard tests of the strength of the materials, iron, steel, wood, and cement.

POST GRADUATE WORK.

Considerable latitude is allowed in the selection of post-graduate work, and the course is arranged each year to suit the requirements of the class. One of the following lines of work is recommended: Hydraulics, Thermodynamics, or Power Plant Engineering. The course selected is accompanied by suitable laboratory work.

TEXT-BOOKS.

Barr's Kinematics of Machinery, Merriman's Elements of Mechanics, Merriman's Strength of Materials, Reid's Machine Design, Carpenter's Heating and Ventilating, Leonard's Machine Shop Practice, Spangler's Elements of Steam Engineering, Hutton's Heat and Heat Engines, Parson's Steam Boilers, Johnson's Materials of construction, Griffin's Machine Design. Merriman's Hydraulics, Goodman's Mechanics Applied to Engineering.

GEOLOGY AND MINING ENGINEERING.

PROFESSOR MITCHAM.

General Geology.—This subject is studied in the senior class by students pursuing courses in Chemistry and Agriculture, Chemistry and Metallurgy, Civil Engineering, Mining Engineering and the General Course, and extends through the entire session. The subject begins with an introductory course in the study of the rock-forming minerals and Petrology, after which Dynamical, Structural, Physiographical, and Historical Geology are taken up and studied in the order named. Special attention is given to the Geology of Alabama and the lectures and recitations are supplemented by laboratory instruction and geological excursions. Text-book, Scott's Introduction to Geology.

Economic Geology.—Students of the Junior Class in the courses of Chemistry and Metallurgy and Mining Engineering devote two hours per week throughout the session to the study of this subject, including the mode of occurrence, distribution, origin, and uses of Coal, Petroleum, Natural Gas and other Hydrocarbons, Building Stones, Clay, Lime and Calcareous Cements, Salines, Gypsum, Fertilizers, Abrasives, and the minor non metallic minerals, Mineral Waters, Ores of Iron, Copper, Lead and Zinc, Gold and Silver, Silver-Lead, Aluminum, Manganese, and Mercury, and the minor Metals.

Mineralogy—The students of the junior class in Mining Engineering devote two hours a week during the first term to the study of Crystallography. The junior classes in Civil and Mining Engineering, Chemistry and Metallurgy, devote four hours a week throughout the entire session, to the study of Determinative Mineralogy. The work consists of laboratory instruction in blowpiping, measuring crystals, and determining the physical properties of minerals. An effort is made to familiarize the student with the economically important ores and rock-forming minerals so that he can identify them by sight or, by applying a few simple tests in the field. Text-books; Moses & Pearson's Mineralogy and Crosby's Tables.

Mining Engineering.—The special studies in this subject begin with the first term in the junior class, and require a through knowledge of algebra, geometry and trigonometry. Special students who have not completed these subjects cannot pursue this course satisfactorily. The work begins with higher surveying, and is introduced by a course of lectures on the construction, theory, use and care of the various instruments used by engineers and surveyors in surveying, leveling and mapping.

Following this, instruction is given in the theory and practice of traverse and triangulation surveys of extended areas, topographical surveying by the various methods, hydrographic surveying, guaging of streams, calculation of flow of water in open channels, pipes and conduits, levelling with barometer, differential levelling, section and cross section levelling, establishing grades and calculation of quantities. Special attention is given to mine surveying and mapping. The work in surveying occupies five hours per week during the first term and the first half of the second term, and is concluded with a short course in railway surveying. During the remainder of the session five hours per week are devoted to the study of the Principles of Mining. Instruction is given in prospecting, boring, preparatory work, sinking, opening up the various kinds of deposits, development and working coal and metal mines, and supporting excavations.

The senior class continues the study of Mining Engineering including ventilation, haulage, transmission of power, hoisting operations, hoisting plants, and mining machinery. Mine drainage, ore dressing, colliery screens, coal washing plants, coke ovens, precautions for safety, and mine administration are studied in detail. The remainder of the session is devoted to the study of strength of materials and the design of structures connected with mining operations.

TEXT-BOOKS.

Johnson's Surveying, Henck's Field Book, Ihlseng's Manual of Mining, Coal and Metal Miner's Pocketbook, International Text-Book Company's Text-Books on Mining and Ore Dressing, and Manuscript Notes by G. N. Mitcham.

Drawing.—Both junior and senior classes pursue a course in drawing throughout the session, and are taught to make drawings, tracings and blue-prints, of various mining machinery and appliances, topographical maps, geological maps and sections, profiles, and working drawings of coke ovens, tipples and various mining structures. An effort is also made to have the student acquire a neat, practical system of lettering for working drawings and maps. Text-books: Rheinhardt's Technic of Mechanical Drafting, Rheinhardt's Lettering.

AGRICULTURE.

PROFESSOR DUGGAR.

INSTRUCTOR GRAY.

ASSISTANT DUNCAN.

Five terms are devoted to soils, crops and other portions of the subject of general agriculture and four terms to animal industry.

Instruction in agriculture is given by means of lectures, textbooks, bulletins of the agricultural experiment stations, and practical work in field, barn and dairy.

The study of agriculture begins with the freshman class in the third term, and occupies three terms of the sophomore years, two terms of the junior year, and will hereafter extend through three terms of the senior year.

The time devoted to this study in the lecture room is two hours per week with each class, in addition to two or four hours of laboratory work per week in barn, field, dairy or library.

The subjects studied by the freshman class are the breeds of horses, cattle, sheep and hogs—their characteristics, uses, management and adaptability to the South.

The first term of the sophomore year is devoted to dairying which is taught by practical work in the dairy—butter making, cheese making, determination of fat in milk by the Babcock method, etc.,—as well as by instruction in the lecture room.

In the second term of the sophomore year the following subjects are studied: Soils—chemical and physical properties, defects, and means of improvement; characteristics of the principal soils of Alabama and the special adaptability of each to particular crops; terracing; objects and methods of preparation and cultivation of the soil; fertilizers; and the renovation of poor soils. Practical work in judging the principal breeds of beef and dairy cattle, hogs, and sheep occupies four hours per week throughout the term.

During the third term the student studies the grasses, leguminous, and other forage plants adapted to the different soils of this State. Instruction in the choice of suitable plants, recognition of the most important forage plants and of their seeds, preparation of meadows and pastures, and principles and practice of hay-making, is both by lectures and by field work and observation of experiments.

In the junior year the topics of the first term are the staple crops of the South, including cotton, corn, oats, wheat, tobacco and rice. The more important crops are treated with reference to varieties, soil and fertilizer requirements, methods of planting and cultivation and uses. Plant breeding, with the special aim of effecting improvement in existing varieties of cotton, corn and cowpeas, by means of systematic selection and crossing, will be taught both in the lecture room and in the field. Students make observations and notes on and assist in harvesting the large collections of varieties of cotton, corn, cowpeas, etc., grown on the Experiment Station Farm.

During the second term the topic is the feeding of animals and the compounding of rations.

The seniors will hereafter study during the first term drainage, irrigation, farm implements and farm buildings; during the second term the principles of animal breeding; and during the third term farm management, including different systems of farming and stock growing, rotation of crops, care of farm manures, choice and methods of applying commercial fertilizers for different soils and crops; markets and results of experiments.

As far as limited time allows attention is directed to agricultural literature now accumulating so rapidly in this and foreign countries, to the end that in future years the student may know where and how to seek the information that he may need.

Applicants for post-graduate work in agriculture will be assigned special research work and aided in the line of investigation deemed best for each individual student.

FACILITIES FOR INSTRUCTION.

Students who take the agricultural course have the benefit of the numerous field and feeding experiments continually in progress on the Experiment Station Farm. The dairy building is equipped for work in making butter and cheese on a small scale and for testing milk.

MINERALOGICAL LABORATORY.

The specimens of live stock brought together for the special purpose of student's use in the study of breeds and in practice in judging animals consist of representatives of Angus, Shorthorn, Red Polled, and Jersey cattle; Berkshire, and Poland China hogs; and Dorset, Southdown, Shropshire, common and graded sheep. Important additions to the live stock are planned.

TEXT AND REFERENCE BOOKS.

Horses, Cattle, Sheep and Swine, by Curtis; The Study of Breeds, by Shaw; Sheep, by Wrightson; The Domestic Sheep, by Stewart; Milk and Its Products, by Wing; Milk Testing, by Farrington & Woll; Soils and Crops on the Farm, Morrow & Hunt; Forage Plants, by Shaw; Soiling Crops and the Silo, by Shaw; The Fertility of the Soil, by Roberts; Corn Culture, by Plumb; Irrigation and Drainage, by King; Irrigation Farming, by Wilcox; Physics of Agriculture, by King; Manures and the Principles of Manuring, by Aikman; Drainage for Profit and Health, by Waring; Agriculture in Some of Its Relations with Chemistry, by Storer; The Feeding of Animals, by Jordan; Feeds and Feeding, by Henry; Animal Breeding, by Shaw; Hand-book of Experiment Station Work; and selected publications of the various divisions of the U. S. Department of Agriculture, and of the Agricultural Experiment Stations.

TWO YEAR COURSE IN AGRICULTURE.

All persons interested in agriculture are advised to take the full four-year course, which besides offering a well rounded general education, should fit them for farming or stock raising, or for special work in agricultural journalism, or for positions in the experiment stations and colleges and in the National Department of Agriculture.

However, those who are able to spend only two years at college may take the two-year course in agriculture and thus devote practically all of their time to agriculture and the closely related branches of study. In the two-year course the studies are so arranged that the nine courses in general agriculture and animal industry, together with work in other departments of applied science, may be completed during two sessions.

BOTANY.

PROFESSOR WILCOX.

ASSISTANT KELLET.

I. ELEMENTARY BOTANY. This course offers a general introduction to the science of botany and is therefore a prerequisite of all other courses in botany. The general principles of morphology and classification will be developed from the standpoint of physiology and ecology. In the laboratory the student will become acquainted with the general morphology and physiology of the spermatophytes and of some of the most important facts of ecology.

LECTURES AND RECITATIONS. Three hours per week during the spring term of the sophomore year.

LABORATORY WORK. Four hours per week.

2. GENERAL MORPHOLOGY. This course will be devoted to the study in the laboratory of carefully selected representatives of the principal groups of plants. The lectures and recitations will supplement the laboratory work and fill up such gaps in the students' knowledge as are incident to the study of isolated types. In all cases where possible special attention will be devoted to plants of economic importance, in either agriculture or medicine.

LECTURES AND RECITATIONS. Two hours per week during the fall and winter terms.

LABORATORY WORK. Four hours per week for students in the long and short courses in pharmacy, but only two hours for other students.

3. COMPARATIVE ANATOMY OF THE SPERMATOPHYTES. A thorough study of the structure and activities of the plant cell will be followed by an examination of the typical tissues with special reference to their function. Students are required to become acquainted with the general methods of botanical microtechnique, including the killing, fixing, imbedding, sectioning, staining, mounting and drawing of all the tissues examined. Students in pharmacy will devote special attention to

LABORATORY OF BOTANY.

the study of the structure of plants employed in medicine while other students will give more attention to those matters that will be of the greatest value to them in the subsequent courses in the subject.

LECTURES AND RECITATIONS. Two hours per week during the spring term.

LABORATORY WORK. Four hours per week for students in the pharmacy courses, but only two hours for other students.

4. PHYTOPHYSIOLOGY. This is a course of carefully selected experiments, to be performed by each student, supplemented by selected readings, conferences and lectures upon certain subjects. It will be the aim of this course to develop a good, general knowledge of the most important functions of seed-plants, such as absorption, photosynthetic assimilation of carbon-dioxide, transpiration, respiration, etc.

LECTURES AND RECITATIONS. Two hours per week during the fall and winter terms of the senior year.

LABORATORY WORK. Four hours per week.

5. PHYTOPATHOLOGY. The aim of this course is to present a broad and comprehensive view of the subject. A thorough study will be made of the principal diseases due to parasitic fungi, but not to the exclusion of diseases produced by unfavorable surroundings and various inorganic factors.

LECTURES AND RECITATIONS. Two hours per week during the spring term of the senior year.

LABORATORY WORK. Four hours per week.

6. BOTANICAL SEMINAR. It is expected that meetings will be held twice per month at which the results of the latest researches in various languages will be presented and informally discussed. The seminar will be open to all juniors, seniors and post graduates taking work in this department and the meetings will be held at some time convenient to all who wish to take part.

7. RESEARCH AND THESIS WORK. The following lines of work are open to the students during this year:

(1) Comparative embryology of spermatophytes.
(2) Ecology and ecological anatomy.
(3) Physiology and morphogenesis.
(4) Advanced plant physiology.
(5) Advanced cytology.
(6) Forestry or plant culture.
(7) Plant breeding or biometry.

It is expected that seniors who do their thesis work in this department will select a subject in one of these groups, and that the result of the research will be presented as a thesis for publication.

PHYSIOLOGY AND VETERINARY SCIENCE.

PROFESSOR CARY.

ASSISTANT MCADORY.

The sophomore class studies human anatomy, physiology and hygiene during the entire college year.

It is the aim of the department to give the students practical and real knowledge of the gross anatomy and functions of the various parts of the human body. Due attention is given, also, to the laws of health—the conditions most favorable to a continuous healthy action of the organs of the human body.

Instruction is given by lectures and by text-books supplemented by blackboard drawings, charts, models of organs, a human skeleton, and by dissections of some of the smaller animals (dog, cat, etc.)

Huxley's Physiology is used as a text and reference book, and several other books on anatomy, physiology and hygiene may be consulted in the college library.

VETERINARY SCIENCE AND ART.

Students in the agricultural and chemical course of study, during the entire junior and senior years, devote to this work two hours per week in the class room and three hours per week at practical clinics. Instruction in veterinary science and art is given by lectures.

VETERINARY LABORATORY.

The lectures are arranged with special reference to the students who are interested in horses or other domestic animals; also to those students who contemplate studying human or veterinary medicine. While it is not the aim to give a complete course in veterinary medicine, we attempt to present the general principles of comparative medicine with such special applications as are adapted to the conditions and wants of the students.

Special attention is given to the exterior anatomy of the horse, while comparative anatomy is presented mainly in connection with the study of the diseases of the different apparatus of the horse or other domestic animals.

Special students in this department study comparative anatomy three to five hours per week in class work, and have practical dissection from 6 to 15 hours per week during the entire year.

Lameness in the horse, minor surgery, the actions and uses of the most common medicines, the principles and practices of comparative medicines, and the ways of protecting the health of domestic animals, are considered in as plain and practical a manner as the time allotted to each subject will permit. Post-mortem examination and the dissection of domestic animals are used as object lessons in the study of general pathology and anatomy.

To the post-graduate student this department furnishes work in histology, pathology, bacteriology, meat and milk inspection. This work gives students who contemplate studying medicine excellent preparatory work along that line. Such students may devote one-half their time to work in this department with the approval of the Faculty.

Histology includes methods of injecting small animals, collecting fixing, hardening, imbedding, section cutting, mounting, staining, examining under the microscope, drawing and drescribing the different tissues.

Pathology is studied in text and reference books and morbid histology embraces naked eye and microscopical examinations of diseased tissues in the laboratory. Quite a collection of diseased tissues and animal parsites is found in connection with the laboratory.

The laboratory is well fitted for the study of bacteriology. Bacteriological analysis of water, milk, sputum, pus, diseased tissues, and of soils can be made. All of the practical operations in the preparation of culture, media, sterilization, inoculations of small animals, staining, microscopical examinations, may be learned. In the laboratory are five Bausch & Lomb and two Winkel microscopes, each of which is supplied with oil immersion objectives, two oculars, Abbe condenser, and iris diaphragm. Sterilizers, autoclaves, incubators, and all the necessary apparatus required in bacteriological work are to be found in the laboratory.

The department of physiology and veterinary science is located by itself in a building which consists of a two-story building containing five laboratory rooms on the second floor and a lecture room, museum, office and operating room on the lower floor.

The building is supplied with water and gas and the laboratory is now equipped for work. The museum contains the skeletons of the horse, the ox, the sheep, and the hog, and a human skeleton. It also contains anatomical models of the various parts and organs of the human body, and models of many parts of the horse, the ox and the other domestic animals. It also contains a collection of pathological and anatomical specimens, and one of animal parasites.

The new veterinary hospital building contains five large box-stalls, four open single stalls, an office and a feed room on the lower floor, the upper floor is used as a storage room for hay, fodder, etc. The hospital is supplied with fresh water.

This department has a new brick cement dissecting room (16x32). It is supplied with an extensive north skylight, and with water and gas.

Every Saturday during the college year the department conducts a free clinic for the benefit of the students in veterinary science and art. Clinical cases have been various and numerous, giving the students opportunity to see and study many diseases and lameness and to become proficient in minor operations.

Students who complete the course in this department will receive full credit in veterinary medical colleges.

BACTERIOLOGY AND THERAPEUTICS.

The senior class in pharmacy devotes six hours per week during the first and second terms to class room and laboratory work in bacteriology; and four hours per week during the third term to therapeutics.

PHARMACY, PHARMACOGNOSY, AND PRESCRIPTION WORK.

PROFESSOR BLOME.

ASSISTANT KIMBELL.

JUNIOR YEAR.

Pharmacy—Class work, *three hours* a week. The different systems of weights and measures. Specific gravity. Pharmaceutical problems. The fundamental operations in pharmacy. Apparatus used in pharmaceutical processes. Discussion of all classes of pharmaceutical preparations.

Laboratory, *nine hours* a week. Preparation of official and non-official galenicals.

Pharmacognosy.—Class work with laboratory work, *four hours* a week. All official vegetable drugs studied with aid of simple and compound microscope.

SENIOR YEAR.

Pharmacy.—Class work, *five hours* a week. Official and non-official pharmaceutical chemicals, inorganic and organic, including the more important newer remedies.

Laboratory, nineteen hours a week. Preparation of official and non-official pharmaceuticals, inorganic and organic, chemicals. Pharmaceutical testing by pharmacopoeial methods, Drug assaying. Practical exercises in identification of pharmaceutical preparations and chemicals.

Art of Dispensing.—The prescription. The study of several hundred original prescriptions from drug-store files. Incompatibilities. Doses.

Pharmacognosy.—Class work with laboratory work, four hours a week. The study of all official crude drugs and the more important non-official ones.

The practical work in pharmacy includes the manufacture of not less than three hundred pharmaceutical preparations and the compounding of not less than fifty prescriptions.

The work in pharmacognosy includes the study of more than 300 drugs, each of which the student is required to recognize by its physical and chemical properties, giving Latin name, common name, origin, habitat, constituents, medicinal action and dose.

The work of the third year in the special course in Pharmacy embraces:

1. An advanced course in the manufacture of Galenicals and Organic and Inorganic Chemicals used in medicine. 2. A course in the testing of drugs and medicinal chemicals for impurities by Pharmacopœial methods. 3. A course in Pharmaceutical Assaying, including the assay of alkaloidal drugs, glucosidal drugs, resinous drugs, the valuation of fixed and volatile oils, pepsin, diastase, etc. 4. A course in Water Analysis. 5. A course in Milk and Butter Analysis. 6. A course in Physiological Chemistry. 7. A course in Organic Preparations. 8. An advanced course in Toxicological Analysis. 9. The presentation of a satisfactory Thesis.

Any one who completes the work of the three-year special course in such a manner as to prove himself a competent analyst will be granted the degree of Pharmaceutical Chemist.

The Pharmacy Department of this institution is a member in good standing of the American Conference of Pharmaceutical Faculties.

TEXT AND REFERENCE BOOKS.

Caspari's Treatise on Pharmacy, Sayre's Organic Materia Medica and Pharmacognosy, Culbreth's Materia Medica and Pharmacognosy, Scoville's The Art of Compounding, Reddiman's Incompatibilities in Prescriptions, Lyon's Pharmaceutical Assaying, United States Pharmacopœia, United States Dispensatory, National Dispensatory, National-Standard Dispensatory, King's American Dispensatory, Prescott's Organic Analysis, Allen's Commercial Organic Analysis, Pharmaceutical Journals, Reports of American Pharmaceutical Association.

HORTICULTURE.

PROFESSOR MACKINTOSH.

ASSISTANT KINMAN.

During the third term of the sophomore year instruction is given as outlined in Goff's Principles of Plant Culture.

CORPS OF CADETS.

During the second and third terms of the junior year three hours per week are spent in class room work and four hours per week in laboratory work. Class work consists of lectures, text-book work, reference reading. The laboratory work consists of practical work in the green house, gardens and orchards of the Experiment Station.

Considerable time is given to budding and grafting, pruning, propagating by seeds and cuttings, spraying, etc. The subjects studied will be the growing of the various fruits and vegetables for home use and for market.

Text-books: Principles of Plant Culture, Vegetable Gardening and the Nursery Book.

MILITARY SCIENCE AND TACTICS.

COL. B. S. PATRICK, COMMANDANT.

Military science and tactics are required by law to be taught in this institution. The law is faithfully carried out by imparting to each student, not physically incapacitated to bear arms, practical instruction in the school of the soldier, of the company and of the battalion in close and extended order, also in guard mountings, inspections, dress parades, reviews, etc.

Under Section 1225, U. S. Revised Statutes, the college is provided with modern cadet rifles and accoutrements.

The following uniform of standard cadet gray cloth has been prescribed for dress: Court and trousers as worn for fatigue at West Point, with dark blue cadet cap. A neat and serviceable uniform can be obtained here at $14 to $15. This is less expensive than the usual clothing. All students are required to wear this uniform during the session.

The entire body of students is divided into companies. The officers are selected for military efficiency, good conduct and scholarship. The commissioned officers will be selected from either the senior or junior classes, and promotion will depend on merit and not wholly on seniority.

A band, composed of cadets, furnishes appropriate music at all reviews and parades, and on other special occasions.

A student who has once accepted an office cannot resign it except for reasons entirely satisfactory to the President and the Commandant. The resignation of an office will usually not be considered without first placing all the circumstances of the case before his parent or guardian.

Candidates for appointment or promotion may be required to stand an examination. Moral fitness, including demerits, will be considered.

Each company is officered by one captain and two first lieutenants, one second lieutenant, and with a proper number of non-commissioned officers. The officers and non-commissioned officers are distinguished by appropriate insignia of rank. These appointments are confirmed by the President on nomination of the Commandant.

The junior class recites once a week in the United States Infantry Drill Regulations.

The senior class recites once a week in Wagner's Security and Information, and Manual of Guard Duty, U. S. Army.

On the graduation of each class the names of such students as have shown special aptitude for military service will be reported to the Adjutant-General of the U. S. Army, and the names of the three most distinguished in military science and tactics will be inserted in the U. S. Army Register, and published in general orders from headquarters of the army.

CADET BAND.

The cadet band is a part of the military organization of the college. It takes part in the military and other exercises, and plays when its services are required.

Regular and individual instruction is given free of charge by the bandmaster. A text-book on general musical information is used in connection with the practical instruction.

A gold medal is given each year by the bandmaster to the member of the band who makes the best general record for the year. The presentation is made at Commencement.

MISCELLANEOUS.

GYMNASIUM AND ATHLETIC FIELD.

The gymnasium is situated at the west end of the athletic and drill grounds, and contains one room, 80x40 feet, with strong beams above for fastening the usual fixtures.

It is equipped with Spalding's gymnasium apparatus and is open to all students at stated hours, under the care of an officer.

The athletic field has a quarter-mile cinder track and ample space for football, baseball and general athletics.

DRAKE ATHLETIC FIELD.

A new athletic field, named in honor of the Surgeon of the College, Dr. J. H. Drake, has been provided for baseball, football and track athletics. It is situated on the Experiment Station grounds near the gymnasium. It will be gradually beautified and equipped with necessary buildings and accommodations.

DISCIPLINE REGULATIONS.

The government of the college is administered by the President and Faculty in accordance with the code of laws and regulations enacted by the Trustees.

Each student upon entering is required to sign his name in the matriculation book and pledge himself to obey the rules and regulations of the college.

Attention to study and punctuality in attendance on recitations and all other duties, are required of every student. Students are prohibited from having in their possession arms or weapons not issued for the performance of military duty, and also from using or causing to be brought into the college limits, intoxicating liquors.

Students are not permitted to participate in any public entertainment, or game, without previously obtaining the consent of the Faculty.

No student will be permitted without the approval of his parent or guardian, to take part in a public game of football.

No student who has failed in two or more subjects will be permitted to be absent from college for athletic contests or other purposes.

(a) Every absence from recitation or examination is graded zero.

(b) When the grade of a student is lowered by reason of absence for which satisfactory excuse can be rendered, a special re-examination may be subsequently granted, and the grade made on the special re-examination alone is substituted for that previously received.

(c) Only sickness, as reported by the Surgeon, or absence by reason of family sickness, or official or collegiate business, will constitute a satisfactory excuse for granting a re-examination.

When a student is called away from college by his parents for reasons other than those specified above, his zeroes for absence are not removed.

The term grade of a student is the average of his daily sessional and term examination marks, found by giving due weight to the term examination.

Privates of the senior class in full standing who are candidates for graduation may be excused by the President from all military drills, and also students over twenty-one years of age at the time of entering College that are permitted to devote their time to one special study, as chemistry, agriculture, or pharmacy, or engineering, provided the time devoted to drill is spent by them in laboratory work.

No student can remain an officer who receives during the session more than seventy-five demerits.

BOARDING.

The Institute has no barracks or dormitories, and the students board with families of the town of Auburn, and thus enjoy all the protecting and beneficial influences of the family circle.

For each house an inspector is appointed, whose duty it is to report those who are guilty of any violation of order. The report of the inspector is made to the Commandant at stated intervals.

Students, after selecting their boarding houses, are not permitted to make changes without obtaining permission from the President, and this permission is given only at the close of a term, except for special reasons approved by the parent.

Permission to board and lodge at separate houses will be granted only to seniors, and to cadets twenty-one years of age, except on special conditions.

MILITARY DRILL.

There are three regular military drills each week and all undergraduate students, not physically incapacitated to bear arms, are required to engage in these exercises; privates of the senior class are exempt.

The drills are short and the duty involves no hardships. The military drill is a health-giving exercise, and its good effects in the development of the *physique* and improvement of the carriage of the cadet are manifest.

RELIGIOUS SERVICES.

Religious services are held every morning in the chapel.

All students are required to attend these exercises, and also to attend the church of their choice at least once on Sunday.

Opportunities are also offered for attending Bible classes every Sunday.

YOUNG MEN'S CHRISTIAN ASSOCIATION.

This association is regularly organized and has a well furnished room on the first floor of a building set apart for its exclusive use. Through its weekly meetings it exerts a wholesome Christian influence among the students.

Students are advised to unite with the association when they enter the Institute.

The ladies of the different churches in Auburn are organized into an auxiliary association to the Y. M. C. A. of this Institute. Assisted by members of the Faculty, they will hold monthly a joint service of praise in the college chapel, and will provide lectures for the occasion.

They have also undertaken to build a special hall for the use of the association, and will solicit subscriptions for that purpose.

The following are the officers of the association.

William Lewis Perdue	President.
Frank Dansby King	Vice-President.
Evans Beauchamp Wood	Treasurer.
James Lister Skinner	Recording Secretary.
Hubert Davis Posey	Corresponding Secretary.
Samuel Oliver White	Librarian.

DISTINCTIONS.

Distinctions are awarded in the different subjects of each class to those students whose grade for the entire year is above ninety per cent.

Certificates of distinction are awarded in public on Commencement day to those who obtain an average of ninety per cent. in all the prescribed studies of a regular class; and also to those who obtain three distinctions in the freshman class, four in the sophomore class, five in the junior class, and six in the senior class; provided they have satisfactorily passed all the regular examinations of that session, and have not received forty demerits during the year.

A distinction is not given in the senior class if the average grade in any one subject is less than 75 per cent.

HONORS.

Members of the senior class who attain distinction at the final examinations with an average grade, in the subjects required, of 95 per cent. are published as

GRADUATES WITH HIGHEST HONOR.

Those who attain distinction with an average grade of 90 per cent. and less than 95, are published as

GRADUATES WITH HONOR.

Those who attain less than 90 per cent. and more than 60 per cent. are published as *Graduates*.

Students of the classes lower than the senior, who attain distinction with an average grade in the required subjects of 95 per cent. are published in alphabetical order as having attained the *Highest Distinction*.

RECORDS AND CIRCULARS.

Daily records of the various exercises of the classes are kept by the officers of instruction.

At the close of each term and at regular intervals reports giving the grade made by each student are sent to the parent or guardian.

EXAMINATIONS.

Written examinations on the studies of the half-term are held by each professor during the months of October, February, and April. Each examination occupies one hour.

At the end of each term written examinations or written and oral, are held on the studies passed over during that term.

Special examinations are held only by order of the Faculty, and in no case will private examinations be permitted.

Students falling below the minimum grade at the final examinations, can be promoted to full standing in the next higher class only on satisfactory examinations at the opening of the next session.

It is required that every student who enters the College shall remain through the examinations at the end of the term. Leaves of absence and honorable discharges will, therefore, not be granted within three weeks of the examination, except for providential reasons.

SCHOLARSHIPS—PRIZES.

The following scholarships and prizes have been established:

THE WILLIAM LEROY BROUN MEMORIAL SCHOLARSHIP OF $170, established by the Alumni Society in memory of the late distinguished President of the Institute.

THE LIGON SCHOLARSHIP OF $170, established by Col. R. F. Ligon, Montgomery, Ala.

THE THOMAS SCHOLARSHIP OF $170, established by Judge William H. Thomas, Montgomery, Ala.

THE BALL SCHOLARSHIP OF $170, established by Mr. Fred S. Ball, Montgomery, Ala.

THE DUNKLIN SCHOLARSHIP OF $600, established by Mr. and Mrs. J. C. Street, Anniston, Ala., in memory of Prof. J. T. Dunklin, formerly Professor of Latin in the Institute.

The scholarships enumerated above are loan scholarships, granted to worthy young men or women, to be returned after graduation. No interest is charged until one year after leaving college.

The above-named scholarships and ten other scholarships are administered by the Alumni Society. For information address R. D. Webb, Secretary.

THE ORATORICAL PRIZE, medal to that member of the junior class who composed and delivers the best oration on junior Class day of Commencement.

1905, *Mell A. Frazer*, Mobile County.

THE ORATORICAL PRIZE, for the Annual Inter-Literary Socity Contest, February 22d.

1906, *Charles M. Hudson*, Lee County.

SOPHOMORE MEDAL IN DECLAMATION for annual contest, May 1st.

1906, *Grover Cleveland Walker*, Coosa County.

PRIZE FOR BEST DEBATER, a medal given annually by the Board of Trustees to the best debater in the Wirt and Websterian Literary Societies each.

A GOLD MEDAL, offered by Lewis Chapter of the Daughters of the American Revolution for the best historical paper by a young woman student.

1905, *Miss Mollie Hal Hollifield*, Lee County.

A PRIZE OF FIFTY DOLLARS, offered by the Colonial Dames of Alabama, for the best historical paper on a colonial subject written by a young man student.

1905, *D. G. Ewing*, Lowndes County.

THE THOMAS ESSAY PRIZE, a gold medal offered by Judge William H. Thomas, of Montgomery, Ala., for the best written essay by any undergraduate student of the college. This essay must be written under the supervision of the department of English.

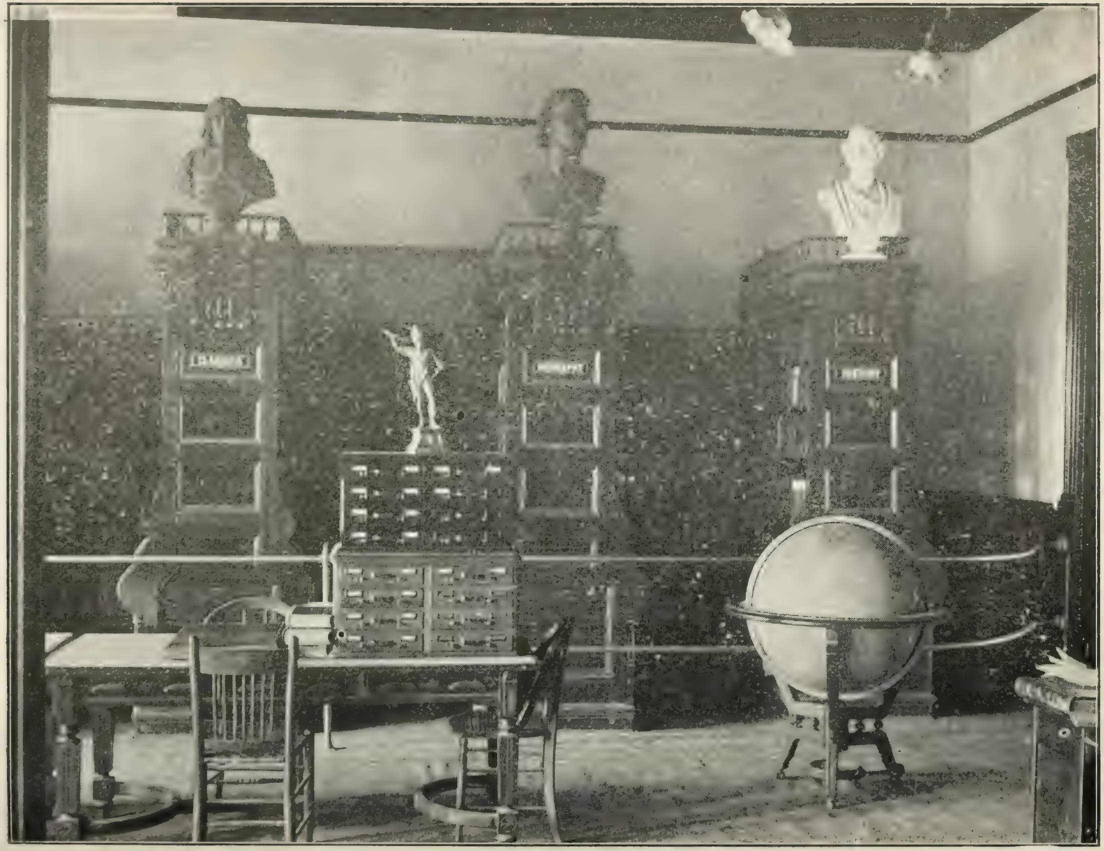
1905, *Miss Helen Tracy Parsons*, Kansas.

BATTALION MEDAL for best drilled soldier.

1905, *W. L. Mitchell*, Lee County.

PRIZE FOR BEST DRILLED COMPANY, a sword given by Board of Trustees.

1905, *J. H. Paterson*, Montgomery County.



GENERAL LIBRARY.

LIBRARY.

LIBRARIAN JAMES R. RUTLAND, A. B., M. S.

ASSISTANT IN LIBRARY, W. R. SAMFORD, B. S.

The Library occupies an elegant well-lighted room in the main building, and also three adjacent rooms. It contains over 20,890 bound volumes, including valuable reference and scientific books, with select editions of standard authors, and others suitable for students carefully and recently selected. It is kept open eight hours daily for the use of students as a reading room and is thus made an important educational feature.

MUSEUM.

The Museum occupies a large room in the third story. It is provided with suitable cases and is equipped with valuable specimens and models of an instructive character.

EXPENSES.

There is no charge for tuition for a resident of Alabama.

Incidental fee, per session	$5 00
Library fee, per session	2 00
Surgeon's fee, per session	5 00
	$12 00

These fees are payable on matriculation. *By order of the Trustees no fees can be remitted.*

Board, including lodging, fuel and lights, is furnished at $12.50 to $15.00 per month.

For a non-resident of the State there is a charge of tuition of $20.00 per session, payable on matriculation, in addition to the annual fee of $12.00 payable by all students.

The necessary expenses for a session, not including uniforms or books, are for a resident of Alabama, as follows:

College fees	$12 00	$12 00
Board, lodging, fuel and lights	112 50	135 00
Washing	9 00	9 00
Total	$133 50	$156 00

By special arrangement with the college authorities, Mrs. M. L. Mitchell, and Mr. B. T. Blasingame will accommodate students with board, lodging, fuel, etc., for $9.50 per month.

By boarding at one of these houses the necessary expenses may be reduced to $106.50 per session. This estimate does not include the cost of the uniform, about $15.00, or of books, say from $5.00 to $15.00, or the laboratory fees in the higher classes, $5.00.

LABORATORY FEES.

For each student in the junior or senior laboratory in pharmacy, chemistry, electrical, or mechanical engineering, a fee of $5.00 per session is required for each department. This fee is payable *on admission to the laboratory,* and is not remitted.

Special students in laboratory work will pay additional fees for each separate division of work, and will be charged with all material consumed in experiments.

NON-RESIDENT STUDENTS.

Tuition for students, not residents of Alabama, is $20.00 per session, unless remitted by the Trustees to worthy students upon the recommendation of the Faculty.

The remission of this tuition fee to non-resident students will be granted in the form of a free scholarship for the succeeding year, to those who obtain a distinction the preceding year, or who, by reason of merit, are deemed worthy.

This tuition for non-residents is remitted to sons of ministers of the gospel.

HONOR SCHOLARSHIPS.

The following non-resident students were granted, each by reason of special merit in conduct and scholarship during the session of 1904-05, an honor scholarship, which exempted from tuition fees:

William S. Bailey	Tennessee
Frank C. Daffin	Florida
Edwin R. Harriss	Georgia.
Henry G. Mitchel	Tennessee.
Helen T. Parsons	Kansas.
Charles S. Ripley	Georgia.

UNIFORMS.

A uniform of cadet gray cloth is prescribed, which all undergraduate students are required to wear during the session. The uniforms are made by a contractor, and are of excellent cloth manufactured at the Charlottesville mill. A suit, including cap, costs at present $15.00. It is neat and serviceable, and less expensive than ordinary clothing.

CONTINGENT FEE.

A contingent fee of five dollars is required to be deposited by each student on matriculation to cover any special or general damage to college property for which he may be liable. General damages are assessed on the body of students.

At the close of the session the whole of the contingent fee, or the unexpended balance, is refunded to the student.

AMOUNT OF DEPOSIT.

Fees to be paid on entrance:

Incidental fee	$5 00	
Library	2 00	
Surgeon	5 00	
Contingent fee	5 00	
Uniform	15 00	
For a resident of Alabama	$32 00	$32 00
Tuition non-resident		$20 00
For a non-resident		$52 00

Besides the above, the student should deposit with the Treasurer enough to pay for books, one month's board, incidentals, amounting to say $27.50. Hence, a resident of Alabama should deposit with the Treasurer $60.00; a non-resident, $75.00.

FUNDS OF STUDENTS.

Parents and guardians are advised to deposit with the Treasurer of the college all funds desired for sons or wards, whether for regular charges or college fees or board, or for any other purpose. It is the duty of this officer to keep safely all funds placed in his hands, and to pay all expenses incurred by the students, including board, uniform, books, etc.

The college cannot be held responsible for the expenses of a student, unless the funds are deposited under specific instructions from the parent or guardian to the Treasurer. No student should be permitted to have a large amount of pocket money, as it brings only trouble and encourages idleness.

THESIS.

Each applicant for a degree is required to write and submit to the Faculty a thesis, or oration, and read and deliver the same at Commencement, if required by the Faculty.

There may be presented, with the approval of the professor in charge, a carefully written report of special work done in a laboratory, showing independent investigation and discussion of some subject.

It must be given to the Professor of English by the first of May.

The subject must be submitted for approval by January 1st.

LITERARY SOCIETIES.

There are two literary societies connected with the college—the Wirt and the Websterian. Each has a hall in the main building.

These societies hold celebrations on the evenings of Thanksgiving Day and 22d of February. A gentleman, selected by the Faculty, is invited to deliver an address before the Literary Societies at Commencement.

To encourage the literary societies the Trustees have directed that a medal be awarded on Commencement Day to the member of each society who is both efficient and regular in attendance, and who is the best debater. The method of selection is determined by the Faculty.

EXERCISES IN ELOCUTION.

On every Saturday morning, immediately after chapel services, oratorical exercises in declamation and in original orations are conducted by the Professor of English, in the presence of the Faculty and students.

The *first and second terms* the students of the junior and sophomore classes are exercised in original orations and in declamations.

The *second and third terms* the members of the senior class read essays or deliver original orations.

SOCIETY OF THE ALUMNI.

The annual alumni oration is delivered by a member of the society in Langdon Hall, on Alumni Day, Tuesday of Commencement week.

Thomas D. Samford, '88, Opelika, Ala	President.
R. F. Ligon, '82, Montgomery, Ala	Vice-President.
R. D. Webb, '97, Auburn, Ala	Secretary-Treasurer.
H. H. Peevey, '95, Birmingham, Ala	Orator for 1906.

SURGEON.

The surgeon is required to be present at the college daily, to visit at their quarters the cadets that are reported sick, and to give all requisite medical attention without other charge than the regular surgeon's fee, paid on entering college.

LOCATION.

The Institute is situated in the town of Auburn, fifty-nine miles east of Montgomery, on the line of the Western Railroad.

The region is high and healthful, noted for its general good health and freedom from malaria, having an elevation of eight hundred and twenty-six feet above tide-water. By statute of the State the sale of spirituous liquors and the keeping of saloons of any kind are forbidden.

ACADEMIC YEAR.

The academic year for 1906-1907 commences on Wednesday, 5th September, 1906 and ends on Wednesday, 5th June, 1907, which is Commencement Day.

It is divided into three terms. The first term extends from the opening of the session to Friday, December 21st, the second term begins Wednesday, January 2nd, and ends March 9th; the third term continues to the close of the session.

ACCESSIONS TO THE LIBRARY BY DONATION, 1905-1906

W. F. Melton, Baltimore, Md.—Kitchen Gardener, 1850, (Robert Buist); Productive Farming, 1843, (Jos. A. Smith); Arator, 1818, (John Taylor); Briefe Anlegung Blumengartens.

Dr. George Petrie.—*Ku Klux Klan Sketches,* (Beard.)

A. Carnegie.—Collected Poems of W. Campbell.

Prof. Wm. H. Blome.—Pharmacopœia of the United States.

Pennsylvania Railway.—Locomotive Tests and Exhibits at the St. Louis Exposition.

New York Co-operative Society.—Two Hundred and Fiftieth Anniversary of Settlement of Jews in U. S.

Sir Robert Anderson.—The Bible and Modern Criticism, (Sir R. Anderson.)

U. S. Government.—Public Documents, etc., (197 volumes.)

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VOL. 1 NO. 4

THE BULLETIN OF THE

ALABAMA POLYTECHNIC INSTITUTE

AUBURN

CATALOGUE
1906-7

ISSUED QUARTERLY
BY THE INSTITUTE
APRIL, 1907

ENTERED AT POST OFFICE, AUBURN, ALA., AS SECOND-CLASS MATTER

CALENDAR 1907-08.

Session Begins	Wednesday, Sept. 4, 1907
Examination for Admission	Wednesday, Sept. 4, 1907
First Term Begins	Wednesday, Sept. 4, 1907
Mid-Term Examinations	Oct. 21-23, 1907
Literary Society Celebration—Thanksgiving Day	Nov. 28, 1907
First Term Ends	Friday, Dec. 20, 1907
Second Term Begins	Thursday, Jan. 2, 1908
Mid-Term Examinations	Jan. 30—Feb. 1, 1908
Literary Society Celebration	Saturday, Feb. 22, 1908
Senior Class Exercises	Saturday, Feb. 22, 1908
Second Term Ends	Saturday, March 7, 1908
Third Term Begins	Sunday, March 8, 1908
Mid-Term Examinations	April 9-11, 1908
Senior Thesis Reported	Saturday, April 25, 1908
Sophomore Class Exercises	Friday, May 1, 1908
Field Day	Friday, May 1, 1908
Final Examinations Begin	Saturday, May 16, 1908
Commencement Sermon	Sunday, May 31, 1908
Annual Meeting of Trustees	Monday, June 1, 1908
Military Exercises, 4 P. M.	Monday, June 1, 1908
Junior Class Celebration, 10 A. M.	Monday, June 1, 1908
Festival of Lights, 8 P. M.	Monday, June 1, 1908
Alumni Day	Tuesday, June 2, 1908
Military Exercises, 5 P. M.	Tuesday, June 2, 1908
Senior Class Celebration, 8 P. M.	Tuesday, June 2, 1908
COMMENCEMENT DAY	Wednesday, June 3, 1908

MAIN BUILDING

CATALOGUE

OF THE

ALABAMA
POLYTECHNIC INSTITUTE

STATE COLLEGE

FOR THE

BENEFIT OF AGRICULTURE AND THE MECHANIC ARTS

AUBURN, ALABAMA

1907

OPELIKA, ALA.
THE POST PUBLISHING COMPANY
1907.

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N. D. Denson	LaFayette, Ala.
W. F. Feagin	Montgomery, Ala.

M. A. Glenn, Treasurer. J. H. Drake, M. D., Surgeon.
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The Institute is a distinctive school of science, and its applications; being also the State College for the benefit of Agriculture and the Mechanic Arts, established by the State in 1872 by endowing it with the land-grant appropriation made by the United States Congress in 1862.

The leading object of the Institute, in conformity with the act of Congress and the acts of the State Legislature, is to teach the principles and applications of science.

In its course of instruction it gives prominence to the sciences and their applications, especially to those that relate to agriculture and the mechanic arts; and at the same time the discipline and liberal education obtained by the study of language and other sciences are not neglected.

All students are required to study the English language. The Latin, French, and German languages are also taught, and opportunity for their study is offered to students in any course.

The special and technical instruction given is thus based on a sound, general education.

In its different courses of education, work of great value to the youth of the State is accomplished by fitting them by a thorough science-discipline, in which manual training in the lower classes is made a prominent feature, for the successful and honorable performance of the responsible duties of life.

While every attention is given to the mental discipline of the students in endeavoring to train them to habits of accurate scientific thought, and thus to qualify them for the duties of life, their moral and Christian training will always constitute the prominent care and thought of the Faculty. The Institute thus endeavors to educate as well as instruct, to form character as well as give information of value.

LABORATORIES AND FACILITIES FOR INSTRUCTION.

The Institute now possesses facilities for giving laboratory instruction in applied science in the following departments:

I. IN AGRICULTURE.

The farm contains 304 acres, and is supplied with illustrative specimens of stock of select varieties.

The agricultural experiment station, established in connection with the College, where experiments and scientific investigations relating to agriculture are daily made, affords unusual opportunities to students to become familiar with agriculture, its defects and remedies.

The students of agriculture accompany the professor in the field, garden, conservatory, stock-yard, etc., where lectures are delivered in the presence of the objects discussed, and during the year exercises in practical agriculture of an educational character are given the students who enter upon this course of study.

II. IN MECHANIC ARTS.

The instruction in shop work is used as an auxiliary in technical education, and as a school of manual training in the arts that constitute the foundation of most industrial pursuits. The work performed by the students is instructive in character, and is intended to give the greatest amount of instruction in principle with the least repetition of operations, and the smallest consumption of time. The work is executed from drawings, and the instructor in charge of the classes makes the lessons before the class, or gives such specific directions as may be necessary to enable the student to make it. This is supplemented by individual instruction.

All students in the sub-freshman and freshman classes take this shop work, three periods a week, each period being two hours long. The sophomore class takes two periods a week. The purpose is not to teach a trade, but to train the eye, the hand, and the mind to more perfect co-operation, a training which will be of value in any pursuit of life. This training involves the principles at the foundation of all trades, and is, therefore, of equal value to a student who wishes afterwards to learn a trade.

Three-phase electric motors are used for driving the different shops, the motors receiving current from the large alternator in the dynamo room. The wood department is located in a room 90x50 feet, and is provided with a surface planer, a variety saw, a swing cut-off saw, a boring machine, a grindstone. There are, in addition, thirty benches for carpentry work, with the necessary tools.

The wood turning and pattern shop is located in a commodious room 40x60 feet, in the second story of the new Power House. It is equipped with twenty-eight wood turning lathes, a grindstone, a band saw, a buzz planer, a pattern maker's lathe, a double circular saw, and a surface planer.

In each of these departments special tools for occasional use are kept in a tool room for the purpose.

In addition to the regular carpentry tools in the benches, each student is supplied with a set of chisels, and plane irons, with a locker to keep them in, and is held responsible for their care and condition.

The forge shop is equipped with twenty-four down draft forges, with anvils, hammers, sledges, and other tools necessary for blacksmith work, including a punch and shear for cutting and punching iron, and a blacksmith drill. The blast is supplied by a blower which is also used for supplying the foundry cupola with blast. The smoke from the forges is removed through underground passages by a 60-inch exhaust fan, and discharged into the chimney.

The foundry is equipped with a 23-inch Colliau cupola, having a melting capacity of 2,000 pounds of iron per hour, the necessary molding tools for bench and floor work, benches, a core oven, ladles, molding flasks, a foundry crane, etc. There is also a brass furnace with crucibles, crucible tongs, and the appliances necessary for making brass castings.

The machine shop is a room 30x100 feet, and is equipped with nine 14-inch, two 16-inch, and one 18-inch engine lathes, one 10-inch speed lathe, a 20-inch drill press, a 10-inch sensitive drill, a 16-inch shaper, two iron planers, one 22-inch by 5-feet and the other 26-inch by 6-feet, a back geared universal milling machine with vertical milling attachment, a water tool grinder, a bench grinder, a universal grinding machine, a universal cutter and reamer grinder, a twist drill grinder, and a power hack saw. Three of the engine lathes have compound rests, three have taper attachments, and one is fitted with a turret and a large number of special tools and fixtures which practically convert it into a manufacturing lathe, and serve to illustrate the methods of manufacture by duplicate parts.

For chipping and filing, eighteen benches are fitted with vises and each student is supplied with hammer, chisels, files, and such other tools as he may need, and a locker in which to keep them. A gasoline engine is installed in one end of the shop, and is used for driving at times when the steam plant is not running.

The tool room is supplied with general machinist tools, such as chucks, drills, reamers, taps, dies, gauges, jigs, and special tools. A convenient room is supplied with lockers for keeping clothes, and basins supplied with hot and cold water for the use of the students. The different shops are equipped with electric lamps, and current is furnished when necessary.

III. IN PRACTICAL CHEMISTRY.

The chemical laboratory is supplied with modern apparatus, and in its equipment affords excellent facilities for instruction in practical chemistry and for investigation.

The investigations that are undertaken in this laboratory by scientific experts, in connection with the work of the agricultural experiment station, are of especial value to advanced students, and afford them unusual opportunities to learn the methods of scientific research.

The building contains a large general laboratory, that accommodates sixty students, a special laboratory for seniors that will accommodate thirty students, a lecture room with a capacity for one hundred seats, and nine other rooms, all appropriated to instruction and research in chemistry.

IV. IN ELECTRICAL ENGINEERING.

In the new Engineering Building three rooms and an office are used by the Department of Electrical Engineering. One of the rooms is a class room, another is used for the Telephone Laboratory and the third is a laboratory for Electrical Measurements.

The wiring in this building is arranged so that alternating and direct currents of various voltages for power, lighting, and experimental purposes can be delivered to any room.

In connection with the laboratories there is installed a repair and construction shop furnished with a variety of hand tools and with power driven machine tools.

The Electrical Measurement Laboratory is furnished with a variety of resistance boxes, bridges, galvanometers, standard cells, condensers, etc., as well as two photometers. In addition to the laboratory instruments proper, just noted, the department is provided with representatives of most of the types of commercial ammeters, voltmeters, and indicating and recording wattmeters, for A. C. and D. C. work. There is also a 30,000 volt transformer for break down tests of insulating materials.

The Telephone Laboratory is provided with a full line of telephonic apparatus, phones, relays, condensers, plugs, jacks, lamp and other signals, etc., representative of the Bell and a number of independent telephone companies.

Single pieces are so mounted that they can be connected up in any desired manner and thus the connections of any particular system can be made up and tested out.

The Dynamo Laboratory occupies another building. Power for experimental work in the Dynamo Laboratory is furnished by a sixty horse power, automatic, side crank, Harrisburg engine, belted to a line shaft with clutch pulleys, a 15 horse power, variable speed, Westinghouse, Type F. Induction Motor, with controller and special resistance grids, so that the motor may be operated under full load on any controller notch, and a 25 horse power Atlas engine.

The Atlas engine is equipped with a governor which permits the speed to be varied within wide limits without stopping the engine.

V. IN PHYSICS.

The physical laboratory occupies two rooms, one of these being permanently darkened for experimental work in light.

It is equipped with numerous standard instruments of precision, such as verniers, micrometers, cathetometers, a horizontal comparator, a Kater's reversion pendulum, balances, etc., and a quantity of minor apparatus.

Recently there has been added a concave grating spectrograph, a large induction coil of 12-inch spark, and other apparatus of value.

VI. IN BOTANY AND BIOLOGY.

The laboratory for plant morphology and histology adjoins the lecture room of the professor, and is well equipped for investigation along these lines. The experimental work in plant physiology and pathology is conducted by the students in the laboratory and adjacent greenhouse, both of which are being rapidly equipped and altered to accommodate this important line of work.

A botanic garden is being developed, and it is the intention to add as rapidly as possible representatives of the native flora of this State, and a good collection of the native medicinal plants. In this manner it is planned to secure from the garden its maximum assistance in the work of instruction. Special work in plant breeding and biometry will also be conducted in this garden.

VII. IN ENGINEERING AND SURVEYING.

The necessary apparatus for field work, including transits, levels, plane table, models of bridges, etc., is provided for the use of students, and the customary exercises in the field are given.

VIII. IN DRAWING.

All students in the lower classes are required to take drawing, a study which tends to discipline the mind, as well as to train the eye and hand to accuracy of observation and execution. A large, well-lighted drawing room, which will accommodate fifty students, is provided, with tables, lock-boxes, etc.

IX. IN MECHANICAL ENGINEERING.

A very important adjunct to the text book work in the mechanical engineering course is the laboratory or experimental work that the students do during the senior year.

The equipment available for this instruction is as follows: A 35-horse power Cross compound engine, specially arranged for experimental work; a Wheeler surface condenser, and Worthington air pump and circulating pump; a 125-horse power Buckeye engine; a 60-horse power Harrisburg engine; a 25-horse power Harris-Corliss engine; a 20-horse power Atlas engine; a 100-horse power Heine boiler; a Deane duplex steam pump, a 4½ horse power gasoline engine; an Ericsson hot air engine; a New York air pump; a Westinghouse air pump; an Ingersoll-Sargent air compressor; an electric headlight engine, indicators, calorimeters, thermometers, a pyrometer, scales, steam gauges, and an apparatus for testing gauges.

For testing the strength of material, there is a 35,000-pound Riehle Bros. testing machine, arranged for making transverse, compression, and tension tests, and micrometer apparatus for measuring the deformation of a specimen under stress. There is also provided a cement-testing outfit consisting of a testing machine, sieves, briquette moulds, and all necessary apparatus for testing the strength, fineness, and setting properties of cement. In addition to the above working apparatus, there are a number of sectional models of machines and appliances, and models of mechanical movements, all of which are extremely useful for the purposes of instruction.

X. IN MINERALOGY.

The laboratory for this work will accommodate 48 students, and is equipped with water, gas, blowpipe outfits, chemical reagents, refecting goniometers, hand goniometers, specific gravity balances, and other apparatus and materials for laboratory work in this department. A good collection of typical mineral specimens is installed in the laboratory for comparison with students' specimens after determination.

XI. IN ORE DRESSING.

Space has been provided for this laboratory in the new Engineering Building and it will be equipped with a model stamp mill plant, including breaker, ore bin, feeder, stamp mill; a model concentrating plant, including ore bin, gyratory crusher, crushing rolls, elevators, revolving screens, jigs, hydraulic classifiers, and concentrating tables; a model cyanide plant; chlorination plant; and a model coal washer. The building is now nearing completion, and this machinery will be installed this summer.

XII. IN PHYSIOLOGY AND VETERINARY SCIENCE.

The veterinary department occupies a separate two-story building with nine rooms. It is provided with lecture room, office, working and operating rooms for clinical practice, thoroughly equipped laboratories for work in bacteriology, milk and meat inspection, and with museum containing skeletons of the domestic animals for instruction. Free clinics are given every Saturday for the benefit of the students in veterinary science.

There is a separate dissecting room constructed, with cement floor and north roof light, especially for this dedepartment. This laboratory is used by the professor and students each afternoon for three months.

XIII. IN PHARMACY.

The laboratory of this department occupies the second floor of the annex to the chemical laboratory, and is provided with a sufficient supply of drugs and apparatus necessary for instruction in pharmaceutical preparations. The equipment of the laboratory includes a Laurent Polariscope; a Pulfrich refractometer; a vacuum distilling and drying apparatus, consisting of ½-horse power air pump, vacuum chamber, condenser, and Bruhl receiver, a three-horse power electric motor, a receiver for fractional distillation under diminished pressure, a complete outfit for organic combustion work, two chemical balances.

The new Pharmaceutical Laboratory on the basement floor of the Pharmaceutical building, is fitted with steam, and has a full equipment for research work in pharmaceutical chemistry.

The students work in the laboratory with the professor from five to eight hours, six days in the week.

The facilities are increased as means are available.

XIV. IN HORTICULTURE.

A plat of twenty acres is devoted to orchards, vegetables, fruits, flowers, and grapes. There is a well appointed greenhouse, fitted with modern apparatus for ventilation, heat etc. Accurate experiments are conducted in this department in fruit growing and the culture of the various vegetables adapted to this climate. Students are given in this laboratory practical instruction in grafting, budding, spraying, fertilization, gathering and marketing crops. Valuable co-operative work with the United States Agricultural Department has been undertaken in this department.

XV. IN ENTOMOLOGY.

The laboratory of this department is equipped with a good supply of modern instruments and paraphernalia. It is especially arranged for research work and yet the beginner in Entomology will find here ample means for prosecuting his studies. The work in insect photography and photomicrography, so necessary to a proper carrying on of investigations in entomology, is well provided for. The laboratory work consists of exercises in the anatomy, ecology, and classification of insects and of exercises in photography and the use of the *camera lucida*. Special attention is given to the working out of problems in Economic Entomology. The students in this department are kept in close touch with the investigations being prosecuted by the Bureau of Entomology of the U. S. Department of Agriculture and with the work of the various State Experiment Stations.

MILITARY TACTICS.

Instruction in this department is given in conformity with the act of Congress. Students receive the benefit of regular military drill, and, in addition, the military system is used as a means of enforcing discipline and securing good order, promptness, and regularity in the performance of academic duties.

This department is supplied with cadet rifles and accoutrements for the corps.

COLLEGE BUILDINGS.

The frontispiece is a representation of the main College building. It is 160x71 feet, and contains forty-five rooms. This building is not used for dormitories for students, but is appropriated to purposes of instruction and investigaton.

It contains the lecture rooms and offices of the professors, laboratories, library, museum, armory, etc.

LANGDON HALL.

This is a two-story building, 90x50 feet. The second story is the audience hall, used for commencement and other public occasions.

ELECTRICAL AND MECHANICAL LABORATORIES.

The first story of Langdon Hall is appropriated to the laboratory of first year wood work in mechanic arts.

The machine shop, forge shop, foundry, and boilers are installed each in separate buildings. A handsome new building, two stories in height, pressed brick and stone trimmings, has been recently constructed for occupation by the power plant on the first floor and by the pattern making department on the second floor. The dynamo laboratory occupies a separate building.

ENGINEERING HALL.

An Engineering Hall has been erected during the last year, and is now ready for use. It is three stories in height, and is constructed of pressed brick with stone trimmings. It harmonizes well with the group of college buildings.

THE CHEMICAL LABORATORY.

As shown on the opposite page, this is a two-story structure, 40x60 feet, with a rear projection, 35x60 feet, of one story and basement, and contains eight rooms. The exterior is of pressed bricks, with cut stone trimmings and terra cotta ornamentation.

In the basement are ample accommodations for assaying and storage.

The main laboratory will accommodate sixty students and contains improved working tables, with water, gas and every necessary appliance for chemical work.

CHEMICAL LABORATORY.

The laboratory for advanced work in chemistry will accommodate thirty students, and is equipped in the same manner. Adjoining this are two rooms which are used respectively as a balance room, and a room for work with spectroscope, polariscope, etc.

The second story contains a lecture room with seats and tablets for one hundred and twenty students. Around the lecture room are cases containing crude and manufactured products, illustrating agricultural and mechanical chemistry, prominent subjects taught in the institution.

ANNEX TO CHEMICAL LABORATORY.

This is a three-story brick building, containing rooms for pharmacy, mechanical engineering, and drawing.

The Chemical Laboratory for the Agricultural Experiment Station occupies a building 60x26 feet, and is appropriated exclusively for chemical investigation and research, and not for instruction.

GRADUATES IN 1906

CLASS OF 1906

HONORS.

Members of the senior class who attain distinction with a grade of 95 per cent. are Graduates with Highest Honor. Those who attain a distinction with a grade of 90 per cent. and less than 95, are Graduates with Honor. Those who attain less than 90 per cent. and more than 60 per cent. are Graduates.

DEGREES.

BACHELOR OF SCIENCE.

GRADUATES.

Robert Evan Allison	Sumter
Otis DeWitt Alsobrook	Chambers
Philip Holcombe Avary	Lee
Franklin King Beck	Wilcox
Sidney Morris Bernheim	Jefferson
James Robertson Black	Lee
Edmund Cason Bunker	Houston
Sylvanus Leonidas Burney	Chambers
Charles Taylor Butler	Madison
Casper Carl Certain	Madison
Willard Cooper	Georgia
Charles Abiatha Dean	Lee
Nimrod Davis Denson, Jr.	Chambers
Thomas Lewis Dickson	Lee
Samuel Burwell Fort	Dallas
William Humphrey Foy	Barbour
James Clark Francis	Coosa
Mell Alexander Frazer	Mobile
Frederick Emanuel Geibel	Montgomery
Lynwood William Gray	Calhoun
DuPont Guerry, Jr.	Georgia
Hugh Scott Hagood	Conecuh

Preston Brooks Harrell, Jr.	Dallas
Frank Hertz	Georgia
Gilbert Russell Hollinger	Wilcox
Frank Parkinson Howard	Macon
Edward Phillip Lacey	Jefferson
William Leonard Lett	Lee
William Madison Lewallen	Jackson
Charles Felton Little	Lee
Arthur Logue	Wilcox
Sidney Long	Butler
William James McBride	Morgan
Hugh Francis McElderry	Talladega
Claud Stewart McNeely	Tallapoosa
Hinton Alfred Middleton	Chambers
John Augustus Miller	Calhoun
Frederick Henry Mohns	Jefferson
Edward Preston Murphy	Butler
Henry Petersen	Jefferson
Martin Alexander Pool	Georgia
James Marion Poyner	Dale
Noah Parker Renfro	Lee
Angel Esteban Sanchez	Nicaragua
Mabry Thomas Stallworth	Conecuh
Charles Spurgeon Waldrop	Jefferson
Clifford Anthony Marion Weber	Jefferson

GRADUATES WITH HONOR.

Henry Madison Averyt	Lee
William Sylvester Bailey	Tennessee
Modesta Francis Beasley	Lee
Clayton St. John Hale	Mobile
Ethel de Vere Harrell	Lee
Shaffer Hood	Tallapoosa
Cincinnatus Decatur Killebrew	Dale
Henry Gaston Mitchel	Tennessee
William LeRoy Mitchell	Lee
Thomas Byron Richardson	Marshall

POST-GRADUATE DEGREE.

MASTER OF SCIENCE.

Obie Boland Cooper	Marshall
John Vernon Denson	Chambers
Devotie Glover Ewing	Lowndes

May Persis Harvey	Lee
Isham Kimbell	Clarke
Walter Robert Samford	Lee

CIVIL ENGINEER.

Robert Platt Boyd	Lee
George Burton Skinner	Marengo

MECHANICAL ENGINEER.

Miller William Francis	Coosa

ELECTRICAL ENGINEER.

Enoch Lester Miller	Marshall

MINING ENGINEER.

John Howard McEniry	Jefferson

PROFESSIONAL DEGREE.

MECHANICAL ENGINEER.

Charles Sanders Culver	Georgia
Roland B. Hall	New York
William B. Stokes	Marion
Albert Lee Thomas	Lee
Henry Edward Werner	Illinois

CIVIL ENGINEER.

Paul Shields Haley	Jefferson
Thomas Hatcher Matson	Tennessee
Berner Leigh Shi	Georgia

ELECTRICAL ENGINEER.

Harry Young Hall, Jr.	New York

DISTINGUISHED STUDENTS

DISTINCTIONS.

Students who receive a grade above 90 per cent. and less than 95 in three studies in the freshman class, in four in the sophomore class, in five in the junior, and in six in the senior, are distinguished for excellence in scholarship, and are awarded certificates of Distinction. Those who receive a grade above 95 per cent. are awarded certificates of Highest Distinction.

FRESHMAN CLASS.

DISTINCTION.

Thomas Beasley	Lee
Samuel Welch Caldwell	Shelby
John Cook	Walker
Clarence Edward Francis	Tallapoosa
James Lane Henderson	Calhoun
Robert Cleveland Lovvorn	Randolph
Charles Francis Pekor, Jr.	Georgia
Roy Edward Perkins	Jefferson
Schuyler Harris Richardson	Limestone
Andrew Jackson Roddy	Jefferson
Millard Ames Westcott	Lee
George Hogan Woodall	Jefferson

HIGHEST DISTINCTION.

Moe Baruchoff Gottlieb	Macon
Benjamin Edward Harris	Jefferson
Josiah Whittaker Powell	Lowndes
James Grey Stelzenmuller	Baldwin

SOPHOMORE CLASS.

DISTINCTION.

Robert Gayle Adams	Clarke
Henry Winfield Allen	Marengo
Emmett Eason Binford	Lee
Samuel Cellner Dreyfus	Montgomery
Samuel Arrington Ellsbery	Montgomery
William Edward Elsberry, Jr.	Elmore
Charles Edward Fort, Jr.	Dallas
Robert Edward Hodnette	Macon
Roy Henderson Liddell	Wilcox

Horace Lamar McWhorter	DeKalb
James Augustus Morgan	Cleburne
Orman Nimmons Powell	Georgia
Herman Herbert Schomburg	Georgia
Bennett Thomas Simms	Sumter
Olin Conway Skinner	Lee
Ira Edwin Wilkes	Crenshaw
Sidney Harvey Winslow	Morgan

HIGHEST DISTINCTION.

Clyde McNeel Howard	Autauga
John Thomas Moore, Jr.	Georgia
James Lister Skinner	Lee

SPECIAL STUDENTS.

DISTINCTION.

Orrville Lay	Etowah
Thomas William Lloyd	Jefferson
Ray Meade	Jefferson

JUNIOR CLASS.

DISTINCTION.

Newton Albert Burgess	Cleburne
John Bayard Clark	Marion
George Washington Coker	Elmore
Edward Tarleton Collier	Montgomery
Dexter Edge	Georgia
Edward Alexander Harris	Georgia
Charles Mell Hudson	Lee
Norman Burns McLeod	Clarke
Eugene Stewart Pace	Calhoun
William Lewis Perdue	Butler
Charles Solomon Ripley	Georgia
James Douglas Sample	Talladega
Samuel Robert Shi	Georgia
Fletcher Jackson Thagard	Butler
Ernest Wood Thornton	Talladega
Henry Brant Whitaker	Georgia
Evans Beauchamp Wood	Pike
James Alto York	Dale

COMMENCEMENT ADDRESS.

FRANCIS H. SMITH, LL. D., University of Virginia.

CATALOGUE OF STUDENTS

FOR SESSION 1906-1907,

Graduate Students.

Charles Taylor Butler	Madison
Casper Carl Certain	Madison
Louis Warren Duffee	Mobile
Luther Noble Duncan	Lee
Mell Alexander Frazer	Mobile
Edward Philip Lacey	Jefferson
Cincinnatus Decatur Killebrew	Dale
William Leonard Lett	Lee
Sidney Long	Butler
William LeRoy Mitchell	Lee
William Forney Osburn	Lee
Noah Parker Renfro	Lee
Thomas Byron Richardson	Marshall
William Francis Ward	Lee
Clifford Anthony Marion Weber	Jefferson

SENIOR CLASS.

John Davidson Alexander	Marengo
Byron Breckinridge Barnes	Greene
Newton Albert Burgess	Cleburne
Benjamin O'Connor Childs	Georgia
Willie Elvie Chumley	DeKalb
John Bayard Clarke	Marion
George Washington Coker, Jr.	Elmore
Edward Tarleton Collier	Montgomery
Manly Allen Collins	Hale
Elva Leland Cooper	Lee
Charles Van Wormer Cornell	Lee
Julian Jarnigan Culver	Lee
Frederick Curtis	Escambia

Marion Brooks Davis	Geneva
John Cameron Dow	Barbour
Richard Hodges Drake	Lee
Frederick Roy Duncan	Georgia
Dexter Edge	Georgia
Arthur Davis Elsberry	Elmore
James Esdale	Jefferson
Walter Scott Farley	Lee
John Locke Gaston	Wilcox
George Jasper Golden	Georgia
Richard Childs Gowdey	Sumter
William Hardie, Jr.	Jefferson
Edwin Alexander Harriss	Georgia
Mary Meriwether Harvey	Bibb
Ambrose Harwell	Lee
Charles Robert Hixon	Bullock
Henry Purser Hodges	St. Clair
Charles Mell Hudson	Lee
George Griffin Hughes	Marion
Thomas Alexander Johnston	Mobile
Frank Dansby King	Montgomery
Emma Lena Kirby	DeKalb
William Morris Lacey	Jefferson
Guy Fleming Lipscomb	Marengo
Norman Burns McLeod	Clarke
William Gaston Martin	Lee
Alfred Holley Mitchell	Lee
Roy Palmer Mitchell	Lee
Cecil Gause Moore	Montgomery
Earle Moore	St. Clair
William Ira Moore	Georgia
Eugene Clift Morgan	Jefferson
Thomas Gustave Mundy	Greene
Eugene Stewart Pace	Calhoun
James Madison Page	Jefferson
George Houston Palmer	Lee
William Louis Perdue	Butler

Bernice Eugene Prather	Lee
Clifford Bartlett Richardson	Colbert
Charles Solomon Ripley	Georgia
Claude Jonathan Rogers	Jefferson
James Douglas Sample	Etowah
John Pickens Scarbrough	Calhoun
Samuel Robert Shi	Georgia
Lynn Thomas Shook	Jackson
Edwin Hunter Smith	Macon
Melville Sommer	Jefferson
Penrose Vass Stout	Montgomery
Rienier Joseph Swart, Jr.	Louisiana
Fletcher Jackson Thagard	Butler
Ernest Wood Thornton	Talladega
James Ernest Threadgill	Marengo
Samuel Augustus Threadgill	Marengo
William Stewart Ticknor	Lee
Edgar Brewster Van Keuren	Jefferson
Adie Goggins Walker	Coosa
William Paul Watkins	South Carolina
Thomas Van Zandt Watson	Georgia
LeRoy George Weber	Jefferson
Henry Brant Whitaker	Georgia
Henry Tompkins White	Colbert
Daniel Elmer Wilkinson	Covington
Ralph Chester Williams	Russell
Thomas McCotry Williams	Lowndes
Evans Beauchamp Wood	Pike
Edmund Augustus Wright	Lee
Homer Waller Wright	Lee
James Alto York	Dale

JUNIOR CLASS.

Robert Gayle Adams	Clarke
Henry Winfield Allen	Marengo
Nicholas Lawrence Baker	Lee
Carl Edward Barker	Dallas

Stephen Radford Batson	Jefferson
William Rufus King Beck	Wilcox
Emmett Eason Binford	Lee
Clarence Medley Bland	Dallas
Ralph Upshaw Blasingame	Lee
Maurice Bloch	Dallas
George Marion Brinson	Montgomery
Leon Gilmore Brooks	Escambia
David Sterra Browder	Montgomery
Orrin Brown	Lee
Nathan Booker Buchanan	Madison
David King Caldwell	Jackson
Eugene Vernon Camp	Georgia
Charles Leonard Chambers	Jefferson
Charles Clifford Chatley	Jefferson
Littleberry Calhoun Collins	Hale
George McCown Cook	Lee
Clarence Winston Cooper	Calhoun
John Thomas Cooper, Jr.	Georgia
Millard Martin Cowden	Blount
J. D. Curtis, Jr.	Escambia
Edward Sentle DeShazo	Shelby
Jesse Dixon	Escambia
William John Patric Donaldson	Georgia
Samuel Cellner Dreyfus	Montgomery
Thomas Bailey Dryer	Jefferson
George Luther Dunn	Henry
Karl Savary Elebash	Dallas
Macon Carmichael Ellis	Dallas
Samuel Arrington Ellsberry	Montgomery
William Edward Elsberry, Jr.	Elmore
Jacie Lee Esslinger	Madison
Ralph Brunson Everett	Georgia
Gordon Flournoy	Georgia
Charles Edward Fort	Dallas
Carl Gilbert Gaum	Jefferson
Carlton Bartlett Gibson	Georgia

Dewitt Gibson	Jefferson
John Randall Goldthwaite	Pike
Alexander Smith Gossett	Georgia
Stuart Leland Greene	Mobile
Roe Preston Greer	Perry
Herman Grimes	Wilcox
Finley McCorvey Grissett	Escambia
Newton McCraw Haralson	Dallas
John Ephriam Harrison	Florida
Andrew Johnston Hawkins	Jefferson
Armstrong Hill	Talladega
Robert Edward Hodnette	Macon
Allen Glover Holder	Clarke
Howard Ivanhoe Holleman	Georgia
Clyde McNeel Howard	Autauga
William Monroe Howell	Barbour
William E. Hudmon, Jr.	Lee
Leo Kling	Mobile
Frances Marion Knapp	Lee
Roy Henderson Liddell	Wilcox
Hubert Dent Long	Barbour
Daniel McDonald	Jefferson
John Thomas McLure	Calhoun
Harris Lamar McWhorter	DeKalb
George Henry Marsh	Pike
Daniel John Meador	Marengo
Alfred Austin Meeks	Jefferson
Goldie Emily Miller	Texas
John Thomas Moore	Georgia
James Augustus Morgan	Cleburne
William Lee Newberry	Jefferson
Carl Dozier Pace	Calhoun
Edwin Steele Partridge	Mobile
Wallace Bruce Paterson	Montgomery
Dewitt Thomas Peavy	Escambia
Daniel Francis Petty	Mobile
Charles Terrell Porter	Talladega

Herbert Davis Posey	Jefferson
Orman Nimmons Powell	Georgia
Grover Cleveland Prowell	Lee
Walker Reynolds	Calhoun
Obie Riddle	Coosa
Albert Price Rogers	Marengo
Herman Herbert Schomburg	Georgia
Francis Minor Shepard	Mobile
Bennett Thomas Simms	Sumter
James Lister Skinner	Lee
Olin Conway Skinner	Lee
Lester Chauncey Smith	Montgomery
Pickett Chauncey Smith	Montgomery
Sydney Hugh Smith	Jefferson
Thomas Washington Smith	Fayette
James Gardner Sommerville	Pickens
Paul Clinton Sorsby	Jefferson
Foster Webb Stanley	Butler
James Thomas Steele	Marengo
Clarence Britton Stillman	Jefferson
Grover Cleveland Walker	Coosa
Jacob Allen Walker	Tallapoosa
John James Weatherly	Calhoun
Henry Jones Weiss, Jr.	Jefferson
Oroon Datus Whitaker	Lee
William Edgar White	Lee
Julian Eugene Williams	Sumter
Ira Edwin Wilks	Crenshaw
William Redding Winship	Georgia
Sidney Harvey Winslow	Morgan
Samuel Wolff	Montgomery
Charles Williamson Woodruff	Jefferson

SOPHOMORE CLASS.

Walter Clarence Abbott	Lee
Lawrence Adler	Calhoun
Chester Dewey Allis, Jr.	Jefferson

Walter Langdon Barker	Montgomery
Russell Newton Bean	Cleburne
Thomas Beasley	Lee
*Howard Bemiss	Walker
Edward Chambers Betts	Madison
George Shields Bishop	Colbert
Simeon Sevier Black	Lee
Austin Francis Jefferson Boyd	Sumter
Joseph Garber Browder	Sumter
Richard Alva Burleson	Morgan
Samuel Welch Caldwell	Lee
William Julian Carter	Marengo
Harry Jamison Chatterton	Limestone
Walter Stanley Childs	Georgia
George Edwin Clower	Lee
Joseph Cohen	Tallapoosa
John Cook	Walker
George Seymour Cooper	Calhoun
William Redmon Cornish	Jefferson
Holland Eugene Cox	Jefferson
Roy R. Cox	Pickens
Harry George Culverhouse	Jefferson
Charles Jefferson Davis, Jr.	Florida
William Dennis	Pike
George McCormick Dent	Barbour
Jasper Newton Downs	Jefferson
Daniel Jackson Duffee	Walker
Joseph DuBrutz Eagar, Jr.	Tennessee
Frank Irvin Eatman	Greene
Joseph Littleton Edwards	Lee
Robert Brooks Ellyson	Mobile
*Lehman Emerson	Montgomery
Hubert Frederick Everett	Georgia
Robert Edward Farley	Jefferson
William Seaborn Fender	Lowndes
Lucien Brown Forbes	Jefferson
John Trentlen Foy	Barbour

*Not in full standing.

Clarence Edward Francis	Randolph
William Jackson Garnett	Morgan
*William Wall Garrett	Elmore
William Walton Garrett, Jr.	Jefferson
Grady Purcell Gilbert	Mobile
Benjamin Meyer Goldgar	Georgia
*Moe Baruchoff Gottlieb	Macon
Robert Irvin Hamilton	Talladega
William Hammack, Jr.	Georgia
James Gray Hanlin	Colbert
Benjamin Edward Harris	Jefferson
George Leach Harris, Jr.	Montgomery
Elmer Arthur Haynie	Lee
Otis Linden Helm	Jefferson
Daniel Herren	Elmore
James Bradley Holman, Jr.	Wilcox
Amos Davis Howle	Calhoun
Lewis Henry Hubbard	Montgomery
Charles Paul Illges	Montgomery
William Oliver Jelks	Georgia
Bolling Young Judkins	Montgomery
Donald Kirk	Mobile
Hugh Lawhon	Dallas
Samuel Gordon Laycock, Jr.	Louisiana
Vandiver Lazenby	Butler
Robert Cleveland Lovvorn	Randolph
Remer MacIntyre	Georgia
Roger Barton McWhorter	Colbert
Isaac Marks	Jefferson
Leon Morgan Martin	Coosa
James Marshall Mayes	Jefferson
Ray Meade	Jefferson
John Mills, Jr.	Georgia
Thomas Cole Mitchell	Georgia
James Weston Moore	Jefferson
Robert Jeptha Morgan	Cleburne
Benjamin Homer Moon	Clay

James Walter Motley	Tallapoosa
Robert Duff Murray	South Carolina
Quinton James Neighbors	Lee
Wesley Phillips Newton	Jefferson
Louis Ethelbert Otts	Hale
William Henry Pace	Lee
Robert Edward Lee Paton	Mississippi
Julius Trimble Pearson	Montgomery
George Washington Penton	Coosa
John Taylor Postell	Georgia
Josiah Whittaker Powell	Lowndes
Osie Clyde Prather	Lee
William Anderson Redd	Bullock
Roswell Hine Richardson, Jr.	Limestone
Schuyler Harris Richardson	Limestone
Andrew Jackson Roddy	Jefferson
Charles Francis Russell	Talladega
William Henry Seale	Butler
Leslie Warren Shook	Jackson
Edward Palmer Simpson, Jr.	Georgia
Asa Herman Skinner	Marengo
Francis Bartow Smith T	Lee
George Bascom Sparkman	Florida
*John Paul Start	Wilcox
James Gray Stelzenmuller	Baldwin
Frederick Taylor Stimpson	Mobile
Gordon Gillespie Stimpson	Mobile
Charles BPure Sullivan	Tallapoosa
Laurel Franklin Summers	Dallas
William Swart	Louisiana
William Brock Jay Taber	Montgomery
Benjamin Marcus Tarver	Dallas
George Washington Taylor	Choctaw
Frederick Tusten Van Duzer	Georgia
Bernard Augustus Webb	Montgomery
Millard Ames Westcott	Lee
Van Buren Whatley	Tallapoosa

Iralee Whitaker	Lee
Samuel Oliver White	Tallapoosa
Robert Wilson Williamson	Tennessee
*Ernest Groce Wilson	Talladega
Walter Woolf Wynne	Marengo
Granville Allen Young	Montgomery
Robert Abernathy Young	Montgomery

FRESHMAN CLASS.

William Javes Barnes	Greene
James Jefferson Beaver	Walker
John Blake	Colbert
George Eason Blue	Montgomery
Ridgeway Smith Boyd	Coffee
George Rawls Brewer	Jefferson
William Thompson Brown	Jefferson
Sydney Marsh Bryant	Wilcox
Michael John Bulger	Tallapoosa
Charles Freeman Carter	Georgia
Frank Ward Cayce	Mobile
Dudley Murfee Clements	Lee
George Benjamin Collier	Pike
Richard Gorman Cook	Talladega
Davis Clyde Craker	Jefferson
Edward Jacob Davis	Georgia
Edward Lane Davis	Mobile
Henry Howard Davis	Geneva
James Graves Davis	Walker
Pius Martin Davis	Walker
Lewis Manning Dinsmore	Morgan
Matthew Barnette Dowdell	Texas
Augustus Baldwin Dudley	Georgia
Samuel Worth DuPuy	Jefferson
Jerry Lister Echols	Etowah
Giles Hamilton Edwards	Jefferson
Harry Thomas Edwards	Jefferson
Thomas Henry Edwards	Lee

Louis Breitenbach Ehrlich	Georgia
Oliver Phelps Ensign	Georgia
George Wilkins Erwin	Hale
Harry Wright Esslinger	Madison
Thomas Hamilton Esslinger	Madison
William Thomas Ewing	Covington
Homer Quitman Gantt	Covington
Jesse Eugene Grady	Covington
G. Moore Hall	Baldwin
Lewis Woodford Hardage	Morgan
Walter Henry Harrell	Blount
Forrest Revell Harsh	Jefferson
William Reese Harvey	Bibb
Cherry LaFayette Hendrix	Montgomery
William Madison Hobdy	Wilcox
Joseph Hodge	Talladega
Peyton Buford Hollinger	Wilcox
Edward Tracy Hollingsworth	Etowah
John Reuben Ellis Houston	Jefferson
Timothy Collins Hudmon, Jr.	Lee
John Noble Huger	Calhoun
Talmage Coats Hughes	Etowah
James Parks Hutcheson	Tallapoosa
Robert Tingnar Jones	Dallas
Walter Burgwyn Jones	Montgomery
John Delmo Kearley	Monroe
Lawrence Kelly	Montgomery
William Lee Kennedy	Jefferson
John Judson Keyes	Limestone
Edgar Love Kimbrough	Georgia
Leslie King	Colbert
Walter Searing Knapp	Lee
Augustus Green Lazenby	Butler
Walton Norwood Glover Legare	Greene
Harris Balton Lett	Lee
Franklin Pierce Lindsey	Georgia
Milton Lothrop, Jr.	Texas

Joseph Roy McCleskey	Marshall
Winston C. McKey	Georgia
George Tilghman McWhorter	Colbert
Joseph Amyle Marques, Jr.	Mobile
Thomas Edwin Middlebrooks	Barbour
Thomas Edwin Middleton	Chambers
William Stinson Mims	Jefferson
Dennis Markett Moore	Georgia
Roy Worsham Moore	Georgia
Corry James Morris	Georgia
James Russell Myrick	Clarke
James Searcy Naylor	Mobile
William Carter Oliver, Jr.	Texas
George Horatio Packwood	Florida
Oscar Watson Payne	Calhoun
Chester Arthur Patterson	Morgan
Vance Carolton Porter	Lauderdale
Cleveland Jackson Price	Barbour
Clarence Madison Pruet	Clay
*Sanford William Pruet	Clay
Henry Thomas Rutland	Lee
Jesse Blake Rutland	Lee
Bryant Richardson	Sumter
Henry Claude Ricks	Colbert
Joseph Rodriquez	Cuba
William Julian Russell	Cherokee
Young Shackelford	Montgomery
George Frank Slaughter	Tallapoosa
Malcolm Alexander Smith, Jr.	Autauga
Leonard Lee Smith	Talladega
Warren Floyd Smith	Shelby
Charles Lewis Speake	Morgan
John Morris Spearman	Walker
Ernest McComas Spiller	Virginia
John Melvin Spruiell	Jefferson
James Daniel Stetson	Georgia
Reuben Johnson Stewart	Georgia

Augustus Tatum	Montgomery
Edwin Harris Teague	Montgomery
Ernest Chatterton Thomas	Lee
Charles Thomas Tompkins	Colbert
Frank Laprede Tyree	Washington
Albert Hodges Van Duzer	Georgia
James Cransby Waits	Covington
Troy Watts	Montgomery
*James Cleveland Webb	Calhoun
Benjamin Weil	Jefferson
John Thomas Williamson	Cherokee
*Henry Harington Wilson	Covington
Alvin William Winzerling	British Honduras
Frank Riley Wise	Dallas
D. Cortez Wood	Jefferson
Frank Perry Woolf	Baldwin
Almond Gaines Wyatt	Tallapoosa
Chandler Cox Yonge	Florida
Albert Leon Young	Lamar

SUB-FRESHMAN CLASS.

Charles Benton Allen	Marengo
Novatus Lee Barker	Georgia
Jeptha Hill Blake	Colbert
William Robin Brazil	Pike
Marion Douglas Broadfoot	Mississippi
George Cain	Tuscaloosa
Abernathy Benson Cannon	Wilcox
Eugene LaFayette Cathcart	Wilcox
Colin Douglas Clarke, Jr.	Etowah
Thomas Lee Cobb	Clarke
Frank Shirley Crosby	Greene
Ossie McGee Cummings	Hale
Carl Walton Dunlap	Jefferson
Henry Roy Faucett	Bibb
James Ernest Gaston	Baldwin
Harold William Graham	Baldwin

Crump Burger Griffis	St. Clair
Roy Chappel Guice	Montgomery
Max Irwin Hardwick	Henry
William Augustus Harman	Georgia
Arthur Zellers Heard	Lee
John Daniel Henderson	Lee
Robert Johnson Henderson	Lee
William Stewart Horton	Greene
Marvel Moses Hughes	Calhoun
Charles Lee Johnson	Tallapoosa
Harry McCorrie Johnstone	Jefferson
Macy Frank Jones	Lee
William Lamar Jones	Dallas
John Leslie Kearley	Monroe
Robert Henry Grady Kilgore	Walker
James Hugh Kyzar	Pike
James Leftwich	Colbert
Walter Hubbard Lee	Pike
John Russell Liddell	Wilcox
DeWitt Loveless	Escambia
John Robert McCaghren	Jefferson
Mabry Adams McCraw	Bibb
Lawrence Davis Mitchell	Lowndes
Andrew Franklin Morgan	DeKalb
Thomas Douglass Murray	South Carolina
John Charles Nickerson	Shelby
George Roscoe Ozley	Shelby
Charles Jefferson Porter	Coffee
Alsey Clements Pratt	Bibb
Gordon Wheeler Proctor	Jackson
Little Claud Ridley	Georgia
Monro Soloman Ripley	Georgia
Eugene Archie Rush	Oklahoma
Clyde Donald Steele	Jefferson
Frederick Stewart	Bibb
Oliver Cromwell Ulmer, Jr.	Choctaw
Harvey Augustus Waters	Pike

James Amzi Woodall	Elmore
James Slaughter Wood	Pike
John Charles Worthington	Walker
Thomas Parks Wright	Montgomery
Henry Ashby Wynne	Marengo

SPECIAL STUDENTS.

John Irvine Alexander	Montgomery
Francisco Angulo	Cuba
Pearl Argo	Macon
Jefferson Clay Berry	Dallas
John McAuley Bowie	Calhoun
Milton Stanhope Brasfield	Marengo
Robert Russell Bridges	Jackson
Albert Galitan Campbell	Jackson
Ralph Carlisle	Jefferson
George Carroway	Hale
Augustus Kirby Clements	Lee
Charles Freeman Cooper	Calhoun
Clarence Edward Cowan	Clarke
Robert Farnham Croom	Conecuh
O. Andrew Daffron	Tuscaloosa
Evans Lide David	Sumter
William Madison Dean	Lee
Daniel Vester Edmondson	Jefferson
James Franklin Ellis	Georgia
Benjamin Fitzpatrick	Chilton
George Hardaway Frazer	Lee
James Gillis Gantt	Elmore
Robert James Gillespie	Marengo
Charles Cecil Griffith	Montgomery
Charles Patrick Harmes	Jefferson
John Boykin Heyward	Georgia
William Robert Holley	Henry
William Seale Hurst	Wilcox
Isham Smith Ingram	Russell

William Lemuel Ingram	Russell
William Samuel Johnson	Tallapoosa
Charles Alfred Jones	Lauderdale
Feaster Ithamar Jones	South Carolina
S. Wright Kitts	New York
Alfred Joseph Knowles	Jefferson
Harry Bruce Lawler	Madison
Orrville Lay	Etowah
Rex Woodruff LeFebvre	Etowah
Elliott Walker Lewis	Calhoun
Edward William Lind	Jefferson
Thomas William Lloyd	Jefferson
Lanford John Locke	Lee
Hunter Lette McDuffie	Monroe
Joel Thadeus McLemore	Greene
Wilkes Coleman McLemore	Greene
Victor LeMay McRee	Jefferson
Robert Stewart McWhorter	Lowndes
Henry Churchill Marks	Montgomery
Homer Perry Merrill	Georgia
Evenor Montenegro	Nicaragua
Roy Lee Moore	Perry
J. Frank Morgan	Jefferson
William Thomas Owen	Calhoun
George Washington Papot, Jr.	Jefferson
Thomas Wilbur Parks	Georgia
Marion Curtis Parmer	Lowndes
James Devote Perdue	Lowndes
John Haigler Phillips	Elmore
James Narcissus Pickett	Bullock
William Thorp Pierson	Perry
James Shellie Pippin	Dale
Richard Alexander Polglaze	Tuscaloosa
Edmund Greer Randle	Jefferson
Alexander Mitchell Rodgers	Georgia
John Routledge	Jefferson
Frank Houston Rozier	Georgia

Frank Bellamy Rutledge	Lee
Kurt Sauer	Texas
Philander Pearsall Scroggs	Georgia
Henry Francis Shackelford	Montgomery
Harry Tayloe Shivers	Shelby
Frank Kater Sinback	Mobile
Kirby Smith	Etowah
Robert Franklin Smyer	Cherokee
Benjamin Milton Spielberger	Colbert
John Bowie Steadham	Lee
George Jefferson Street	Clay
Percy Hairston Sumner	Greene
Arthur Pleasant Thompson	Calhoun
Orlando Cleveland Tisdale	Conecuh
Dessie Chlorine Ward	Lee
Robert Young Ware	Jefferson
Robin Monroe Webb	Jefferson
James Mortimer Weems	Bullock
Samuel Carter Weems	Bullock
Samuel Taylor Whitaker	Lee
William Reid Whitaker	Georgia
William Church Whitner	Florida
Henry Thomas Williams	Chilton
James Williams	Lauderdale
Carlton Adams Wilmore	Indiana
Ernest Gordon Wilson	Georgia
Edwin McCain Wood	Pike
Jep Woods	Fayette

SUMMARY.

Graduate Students	15
Senior Class	81
Junior Class	110
Sophomore Class	121
Freshman Class	122
Special and Irregular Students	94

Total in College Classes	543
Sub-Freshman Class	57
Total	600

NUMBER OF STUDENTS IN EACH SUBJECT OF STUDY.

English	524	Civil Engineering	41
History	342	Electrical Engineering	107
French	33	Mechanical Engineering	91
German	37	Mining Engineering	32
Latin	124	Machine Design	89
Mental Science	8	Drawing	471
Political Economy	74	Mechanic Arts	403
Mathematics	497	Military Department	559
Chemistry	245	Mineralogy	27
Chemical Laboratory	205	Physiology	122
Agriculture	143	Veterinary Science	35
Physics	464	Pharmacy	40
Botany	69	Bacteriology	20
Horticulture	21	Entomology	5
Geology	70		

RESIDENCE BY STATES.

Alabama	511
Georgia	56
Florida	5
South Carolina	4
Tennessee	5
Mississippi	3
Louisiana	3
Texas	5
British Honduras	1
Nicaragua	1
Cuba	2
Indiana	1
New York	1
Oklahoma	1
Virginia	1
Total	600

MILITARY ORGANIZATION

FOR SESSION 1906-1907

CHARLES COLEMAN THACH.
President,

Commandant,
COL. BENJAMIN S. PATRICK.

Surgeon,
J. H. DRAKE.

Battalion Staff,

Cadet Captain N. B. McLeod, Adjutant.
Cadet Captain E. B. Wood, Quartermaster.
Cadet Second Lieutenant T. V. Watson, Asst. Adjutant.
Cadet Sergeant R. H. Liddell, Sergeant Major.
Cadet Sergeant J. T. Moore, Quartermaster Sergeant.

Cadet Captains,

1. G. J. Lipscomb.
2. E. W. Thornton.
3. W. M. Lacey.
4. W. Hardie.
5. W. L. Perdue.

Cadet First Lieutenants,

1. D. E. Wilkinson.
2. E. A. Wright.
3. S. R. Shi.
4. P. V. Stout.
5. W. S. Farley.
6. L. T. Shook.
7. J. A. York.
8. F. J. Thagard.
9. B. O. Childs.
10. E. H. Smith.

Cadet Second Lieutenants,

1. R. H. Drake.
2. C. S. Ripley.
3. N. A. Burgess.
4. E. A. Harriss.
5. J. D. Sample.
6. J. B. Clarke.
7. H. P. Hodges.
8. C. B. Richardson.

Cadet First Sergeants,

1. H. W. Allen.
2. C. E. Fort.
3. J. L. Skinner.
4. C. M. Howard.
5. S. A. Ellsberry.

Cadet Sergeants,

1. P. C. Smith.
2. C. L. Chambers.
3. R. G. Adams.
4. F. W. Stanlev.
5. H. H. Schomburg.
6. O. N. Powell.
7. C. W. Woodruff.
8. O. Lay.
9. O. C. Skinner.
10. R. E. Hodnette.
11. L. C. Collins.
12. J. A. Morgan.
13. W. E. Elsberry.
14. D. J. Meador.
15. E. S. DeShazo.
16. W. E. White.
17. S. H. Winslow, (Color Sgt.)
18. W. L. Newberry.
19. W. Reynolds.
20. T. W. Smith.

Cadet Corporals,

1. S. H. Richardson.
2. J. W. Powell.
3. A. J. Roddy.
4. R. A. Burleson.
5. J. G. Stelzenmuller.
6. B. E. Harris.
7. J. T. Pearson.
8. M. A. Westcott.
9. R. A. Young.
10. T. Beasley.
11. S. W. Caldwell.
12. J. B. Holman.
13. G. W. Taylor.
14. W. S. Childs.
15. B. A. Webb.
16. G. T. McWhorter.
17. D. J. Duffee.
18. G. A. Young.
19. P. P. Scroggs.
20. H. J. Chatterton.
21. H. G. Culverhouse.
22. W. J. Carter.
23. R. B. Ellyson.
24. W. B. Taber.
25. J. T. Foy.
26. A. H. Skinner.
27. J. W. Moore.
28. S. S. Black.

The Cadet Band.

1906—1907.

PROF. M. THOS. FULLAN, Director, in charge of Concerts.
A. L. THOMAS, Bandmaster.
R. H. DRAKE, Principal musician.
C. B. RICHARDSON, Drum Major.

R. N. Bean.
W. R. Brazil.
L. G. Brooks.
N. A. Burgess.
C. V. Cornell.
G. W. Erwin.
G. H. Frazer.
F. M. Grissett.
J. E. Harrison.
J. D. Henderson.
C. E. Hendrix.
J. B. Heyward.
D. C. Loveless.
R. J. Morgan.
B. H. Moon.
W. L. Newberry.
J. B. Steadham.
B. Weil.
H. W. Wright.
C. P. Wright.
E. M. Wood.

Cadets of the graduating class who were reported to the Adjutant General, U. S. Army, for publication in the "Official Army Register" as having ranked highest in the Military Department:

1889.

A. St. C. Dunstan.
B. H. Crenshaw.
A. J. Burr.

1890.

F. D. Milstead.
J. W. Bivins.
G. W. Emory.

1891.

L. E. Baker.
C. C. Johnson.
F. J. Bivins.

1892.

H. F. Dobbin.
A. L. Jones.
C. L. Brown.

1893.

Joel Dumas.
C. H. Smith.
J. F. Webb.

1894.

C. S. Andrews.
P. P. McKeown.
R. T. Dorsey.

1895.

S. L. Coleman.
H. H. Smith.
L. B. Gammon.

1896.

A. L. Alexander.
W. L. Fleming.
W. M. Williams.

1897.

P. G. Clark.
G. M. Holley.
G. N. Mitcham.

1898.

A. H. Clark.
A. McB. Ransom.
John Haralson.

1899.

I. F. McDonnell.
A. H. Feagin.
T. W. Wert.

1900.

E. M. Mason.
H. P. Powell.
C. W. Nixon.

1901.

A. F. Jackson.
J. D. Foy.
P. S. Haley.

1902.

W. D. Willis.
J. E. D. Yonge.
J. B. Garber.

1903.

H. E. Davis.
H. M. Yonge.
T. J. Dowdell.

1904.

J. McDuffie.
B. L. Shi.
George Dunglingson, Jr.

1905.

R. P. Boyd.
R. M. McCulloh, Jr.
J. H. Paterson.

1906.

W. H. Foy.
F. H. Mohns.
M. A. Frazer.

REQUIREMENTS FOR ADMISSION.

All applicants for admission should present testimonials of good moral character, and those who come from other colleges must present certificates of honorable discharge.

To enter the freshman class the applicant must be not less than fifteen years of age, and should be qualified to pass a satisfactory examination on the following subjects:

1. Geography and History of the United States.

2. English—(a) English grammar as contained in any standard text. (b) An examination upon sentences containing incorrect English. (c) A composition giving evidence of satisfactory proficiency in spelling, punctuation, grammar, and division into paragraphs.

(d) *Reading.* The composition of 1907 will be upon subjects drawn from one or more of the following works in English Literature: (1) Hughes's *Tom Brown at Rugby;* (2) Goldsmith's *Vicar of Wakefield;* (3) Shakespeare's *Julius Caesar;* (4) Longfellow's *Evangeline;* (5) Scott's *Ivanhoe;* (6) Shakespeare's *Merchant of Venice;* (7) Irving's *Sketch Book;* (8) Macaulay's *Essay on Milton;* (9) Scott's *Marmion;* (10) Dickens's *David Copperfield;* (11) George Eliot's *Silas Marner;* (12) Shakespeare's *Macbeth;* (13) Irving's *Life of Goldsmith;* (14) Lowell's *Vision of Sir Launfal.*

The candidates will be required to present evidence of a general knowledge of the subject matter, and to answer simple questions on the lives of the authors. This part of the examination is intended only to test a general knowledge of the substance of the books.

(e) *Study and Practice.* This part of the examination presupposes the thorough study of the style of the work, and will be upon *Julius Caesar* and the *Essay on Milton.*

Preparation and examination on these works will be necessary before the student is classed as regular in any course.

3. Mathematics—(a) Arithmetic, including fundamental operations; common and decimal fractions; denominate numbers; the metric system; percentage, including interest and discount; proportion. (b) Algebra to quadratic equations; especial preparation is urged in *fundamental operations*: *factoring, multiples, divisors and fractions;* (c) two books of geometry.

4. Those applicants who desire to continue the study of Latin should be qualified to pass a satisfactory examination in Latin grammar and the first two books of Cæsar, in addition to the above subjects.

In pronouncing Latin it is recommended that *ā* be pronounced as in *father; ă* as the *a* in *Cuba; ē* as in *prey; ĕ* as in *men; ī* as in *machine; ĭ* as in *cigar; ō* as in *old; ŏ* as in *obey; ū* as in *rule; ŭ* as in *full; j* as *y* in *yard; c* always as *k* in *king; g* always as *g* in *get.*

For admission to the higher classes, students should be prepared to stand satisfactory examination in all of the studies of the lower classes, as shown in the course of study. Students applying for admission to the sophomore class will be examined in mathematics through quadratic equations in algebra, and on all of geometry. Where opportunity has not been offered to pursue special studies required at this college, the system of equivalents will be adopted, and studies which denote an equivalent amount of discipline and training will be accepted as satisfactory. But if not prepared to pass an examination in history and chemistry at the time of application, the applicant will be required before graduation to pass a satisfactory examination on these subjects.

It is absolutely essential that students who hope to succeed should be well grounded in arithmetic, algebra, and geometry.

A working knowledge of the metric system should also be obtained.

ADMISSION ON CERTIFICATE.

Applicants will be admitted without examination on presenting a certificate from any of the CERTIFICATE SCHOOLS named herein.

The following educational institutions having made application to be correlated to this college, and having presented an approved course of study, are hereby declared to be CERTIFICATE SCHOOLS, and are granted the privilege set forth in the following:

"Students from certificate schools will be admitted to the fresh- "man class *without examination* upon the certificate of the presi- "dent or principal, showing definitely that such students have "completed satisfactorily all the studies required for admission, as "stated in the catalogue, and are otherwise admissible."

The privilege of admitting students to the sophomore class on certificates will be granted only to those approved schools that have had a continuous existence for five years or more, and have previously had pupils admitted to that class without conditions.

The following form of certificate will be used:

I hereby certify that A---------- B---------- has attended the (*name the school or academy*) for -------- years, and has studied the following subjects:
in History ----------------------------------(*name the books*)
in English ----------------------------------(*name the books*)
in Algebra -------------------------(*state amount accomplished*)
in Geometry-----------------------(*state amount accomplished*)
in Latin-------------------------------------(*state books read*)
and having passed a satisfactory examination on these subjects, as required in the catalogue for admission to the --------- class, he is recommended for the same.

Admission by certificate is regarded as provisional.

That is, though admitted to the class for which the certificate calls, the applicant may be required to take special examination in any subject in which his preparation proves unsatisfactory, or, after a fair trial, he may be dropped to a lower class, if he fails to maintain standing in the class to which he may be admitted.

CERTIFICATE SCHOOLS.

University Military School, Mobile	J. D. Wright.
Verner Military Institute, Tuscaloosa	W. H. Verner.
University School, Montgomery	J. M. Starke.
Mt. Willing High School, Mt. Willing	J. Knight.
State Normal School, Jacksonville	C. W. Daugette.
Male Academy, Huntsville	F. Puryear.
Furman Academy, Livingston	L. A. Cockrell.
High School, Opelika	G. W. Brock.
Eighth District Agricultural School, Athens	Prof. Fouche.

Sixth District Agricultural School, Hamilton	H. O. Sargent.
Eutaw Male Academy, Eutaw	H. C. Horton.
Anniston Training School for Boys	W. A. White.
Prattville Academy	George White, Jr.
Decatur City Schools	J. M. Collier.
Dayton Academy	W. H. MacKellar.
Georgia Military Academy	J. C. Woodward.
Jasper Graded School	W. E. Turnipseed.
Tuskegee High School	W. B. Riley.
Mobile Military Institute	F. R. Peterson.
University High School, Birmingham, I. J. White	M. B. Dickinson.
Fourth District Agricultural School, Sylacauga	T. C. Moore.
Gaylesville High School	John R. Ray.
Oxford Graded Schools	John R. Bell.
Carrollton (Ga.) Academy	
Ninth District Agricultural School, Blountsville	E. A. Miller.
Gadsden High School	W. E. Striplin.
Boyd High School, Brundidge	B. H. Boyd
Eufaula High School	F. L. McCoy.
Union Springs High School	W. R. Harrison.
Montgomery High School	C. L. Floyd.
Sycamore Academy	C. C. Slaton.
Southern Agricultural School, Abbeville	C. J. Owens.
Barnes' School, Montgomery	E. R. Barnes.
Jackson Agricultural School	W. F. Monk.
Pensacola Classical School	H. C. Armstrong.
Pratt City High School	P. M. McNeil.

ADMISSION OF YOUNG WOMEN.

The privilege of becoming students in this college is granted by the trustees to young women of mature mind and character, on the following conditions:

The applicant must be seventeen years of age, and, if a candidate for a degree, be able to pass a satisfactory examination in each of the four subjects named below.

If the applicant is a candidate for admission as a special or irregular student, she must be able to pass a satisfactory examination in two of the subjects named, and may be admitted at an age less than seventeen, with a resident of Auburn acting as guardian, if application is approved by the faculty.

(a) In English—Proficiency in spelling and punctuation; Grammar (Lockwood-Whitney); Rhetoric (Lockwood and Emerson's Composition and Rhetoric and Espenshade's Rhetoric); Scudder's Masterpieces of American Literature; Syle's From Milton to Tennyson.

For requirements in reading in literature, see page 46.

(b) In History—Macy's Our Government; Chambers's History of the United States; Myer's General History.

(c) In Mathematics—Arithmetic; Algebra, including quadratic equations, logarithms and series; Plane and Solid Geometry; Plane and Spherical Trigonometry, as in Wentworth.

(d) In Latin—Grammar, including the forms and syntax; Jones's Latin Prose Composition; translations of selections from Caesar, Nepos, Virgil, Cicero's Orations, Cicero's Letters, or the equivalent.

The equivalents of these subjects, as in above text-books, may be substituted.

When admitted, upon complying with the conditions above stated, the applicants may enter upon the study of any subject taught in the college and join any class, for which upon examination, they may be found qualified. The only condition imposed will be that they engage in earnest study, and attend the exercises regularly. They will board in town with private families, and attend college only at the hours of their exercises.

ENTRANCE EXAMINATIONS.

Entrance examinations will be held on Wednesday, the 4th of September, the day on which the session opens. Candidates will also be examined during the session, when application is made for admission.

Applicants who are not prepared to stand the entrance examinations for full admission to the freshman class are admitted to the sub-college department, provided they are sixteen years of age, and are found after examination qualified to profit by the instruction given. Those who, after admission, are inattentive to their studies, and neglectful of their duties, will be required to withdraw, but those who are studious and make sufficient progress will be advanced to full admission to the freshman class when they are qualified to pass satisfactorily the required examinations.

Students, upon their arrival at Auburn, will report immediately to the President. No student will be admitted to a recitation in any class previous to matriculation.

NUMBER OF EXERCISES REQUIRED.

All students are required to have *not less than fifteen* recitations per week, or their equivalent, in addition to the exercises in laboratory work, drawing and military drill. These additional exercises occupy not less than twelve hours per week, and in all give twenty-seven to thirty hours per week required in college exercises.

SPECIAL AND IRREGULAR STUDENTS.

The privilege of electing studies in the lower classes is not granted to young students nor to their parents.

The faculty will assign a student, on admission, to that class of a prescribed course for which he is qualified, and for special reasons, approved by the faculty, he may be permitted to become irregular.

Students qualified to prosecute the studies of the junior class, and those over twenty-one years of age that are not candidates for a degree, are permitted to take, with the advice of the faculty, the subjects of study for which they may on examination prove themselves qualified.

For an applicant to enter upon the study of Civil, Mining, Electrical, or Mechanical Engineering as a special or irregular student he must have studied algebra through quadratics and logarithms, plane geometry, and plane trigonometry.

The professor in charge of a department will decide by examination whether a special student is prepared for admission to his class.

A student who does not take all the studies in a class of one of the degree courses, as prescribed in the catalogue, and is permitted to take an irregular course, will be assigned to a member of the faculty, who will act as his special adviser, and when his course of study has been approved by the faculty, no other change will be permitted without the endorsement of his adviser.

Regular students who fail to pass satisfactory final examinations in any one study become irregular students. They will be classed as regular students pursuing a course for a degree, whenever they can pass the examinations in those subjects in which they were found deficient.

Students, candidates for a degree, who are not in full standing in all the prescribed studies of a class, rank in the military department with that class in which they have the greatest number of studies, and their names are so placed in the catalogue.

ADMISSION TO HIGHER CLASSES.

At the beginning of each term a student in the sub-freshman class may, on application approved by the faculty, be examined for admission to the freshman class in history, English and mathematics, and be admitted to the freshman class in those subjects in which he passes a satisfactory examination.

Students who have completed satisfactorily all the studies of the sophomore class, as prescribed in the catalogue, in any one of the regular degree courses, can enter, without condition, the junior class in any course, except in the general course, and the course in pharmacy, in which Latin is required, and the course in chemistry and agriculture, in which botany and physiology are required.

Students who are admitted to the junior class from other institutions, on examination in English, Latin and mathematics, and who have not completed all the studies of the sophomore class, in order to graduate, will be required to complete the course in chemistry and history as taught in the sophomore class. In addition to these two subjects, students who thus enter the junior class of the course in chemistry and agriculture, will be required to complete the course in botany and physiology in the sophomore class.

COURSES OF INSTRUCTION.

The courses of study include the Physical, Chemical, and Natural Sciences, with their applications; Agriculture, Biology; Horticulture; Mechanics, Astronomy, Mathematics; Drawing; Civil, Electrical, Mechanical, and Mining Engineering; Physiology and Veterinary Science, Pharmacy; English, French, German, and Latin Languages; History, Political Economy; Mental and Moral Sciences.

The studies are arranged in regular courses so as to offer liberal and practical education as a preparation for the active pursuits of life.

There are eight degree courses for undergraduates, each leading to the degree of Bachelor of Science (B. S.) and requiring four years for its completion.

I. COURSE IN CHEMISTRY AND AGRICULTURE.

II. COURSE IN CIVIL ENGINEERING.

III. COURSE IN ELECTRICAL ENGINEERING.

IV. COURSE IN MECHANICAL ENGINEERING.

V. COURSE IN MINING ENGINEERING.

VI. COURSE IN CHEMISTRY AND METALLURGY.

VII. COURSE IN PHARMACY.

VIII. GENERAL COURSE.

IX. TWO-YEAR COURSE IN AGRICULTURE.

X. TWO-YEAR COURSE IN MECHANIC ARTS.

XI. TWO-YEAR COURSE IN PHARMACY.

XII. THREE-YEAR COURSE IN PHARMACY.

XIII. THREE-YEAR COURSE IN VETERINARY MEDICINE.

Course I. includes theoretical and practical instruction in those branches that relate to chemistry and agriculture, and is especially adapted to those who propose to devote themselves to agriculture or chemical pursuits.

Course II. includes the principles and applications of sciences that directly relate to civil engineering, and is adapted to those who expect to enter that profession.

Course III. includes, besides the general principles and applications of the sciences, a special course in the applications of electricity and mechanics, and is arranged to fit men for the profession of electrical engineering.

Course IV. furnishes instruction in steam engineering, materials of construction, drawing and machine design, electrical engineering, together with laboratory work. The course is intended to qualify men to fill positions in the manufacturing industries.

Course V. includes theoretical and practical instruction in geology, mineralogy, chemistry, civil and electrical engineering, as applied to mines; mapping, exploration; boring; ventilation; timbering, and all the operations pertaining to the profession of mining engineering.

Course VI. provides for thorough theoretical and practical instruction in pure and technical chemistry and metallurgy, and in the scientific branches relating thereto. Students taking this course also pursue the study of German or French during the junior and senior years, and are thus prepared to utilize for reference and for study scientific journals and works published in those languages.

Course VII. includes, besides the general education of course IV. in the lower classes, a special course in pharmacy and chemistry, and is adapted to those who expect to become pharmacists, manufacturing chemists, or to enter upon the study of medicine.

Course VIII. has been arranged to give a general and less technical education in subjects of science and language to meet the wants of those students who have selected no definite vocation in life, as well as of those who propose ultimately to engage in teaching or in some commercial or professional business.

Courses IX., X., XI., XII., and XIII., have been arranged for the benefit of those students who, for reasons satisfactory to themselves, are unable to continue at college four years and to take one of the regular degree courses.

A student who completes satisfactorily all the work of the senior class in a department, including the laboratory work, with approval of the faculty, may be awarded a certificate of proficiency in said subject.

Students who complete one of the two-year courses will, on passing a satisfactory examination, receive certificates indicating their attainments.

A student who completes the work of the two-year course in pharmacy and submits a satisfactory thesis will be granted the degree of Graduate in Pharmacy, (Ph. G.)

A student who completes the work of the three-year course in pharmacy and submits a satisfactory thesis will be granted the degree of Pharmaceutical Chemist, (Ph. C.)

No degree or certificate of proficiency will be given in any course unless the applicant has passed a satisfactory examination in elementary English. Every candidate for a degree will be required to stand this special examination during the second term of the senior year.

Declamations and themes or orations are required of all regular students pursuing courses leading to a degree.

POST-GRADUATE COURSES.

A more extended post-graduate course of study may be taken by a graduate of this college or of any other institution of equal grade. The completion of a course which leads to a post-graduate degree of Master of Science requires one year's residence at the college, spent in the satisfactory prosecution of a course of study, with such laboratory work as may be approved by the faculty.

The candidate must also present to the faculty a satisfactory thesis showing independent investigation upon some subject pertaining to his course, and must pass an examination, at the close of each term, on the course of study prescribed, in which he must attain a grade of 75 per cent. The examination is written, and also oral in the presence of the faculty.

The subject for the thesis must be submitted to the faculty for approval prior to January 1st, and the thesis given to the professor of English by May 1st.

Applicants for a post-graduate degree and special students in post-senior studies are subject to the same general regulations as other students, and *pay the same fees;* but are exempt from all military duty.

The following courses are prescribed for the degree named:

1. *Master of Science.*—Studies in three departments, in two of which the candidate must have previously completed the full course of the senior class; or in special cases, with the approval of the faculty, a student may devote his full time to work in two departments, in each of which he has completed the full senior course.

2. *Master of Science in Pharmacy.*—Pharmacy and chemistry.

3. *Civil Engineer.*—Civil Engineering, mathematics, and analytical mechanics, or mining engineering.

4. *Electrical Engineer*—Electrical engineering and machine design or mathematics.

5. *Mechanical Engineer.*—Mechanical Engineering, and machine design or mathematics.

6. *Engineer of Mines.*—Graduate students who have completed the course in Mining Engineering, including German, may apply for this degree. Subjects to be pursued: Mining Engineering, Civil Engineering, and one other technical subject related to mining or metallurgy, and approved by the faculty.

Special Students in Post-Senior Studies.—Students who are not graduates, but are qualified in special subjects to prosecute post-senior studies, and desire to prepare themselves more thoroughly for professional or special work in any one of the departments of engineering, in chemistry or pharmacy, veterinary science, or other subjects in which instruction is given, may, when qualified, with approval of the faculty, enter this higher department of study and have all the privileges of post-graduate students.

A certificate of proficiency will be given when any one subject of a post-graduate course is satisfactorily completed.

Two degrees will not be given the same year.

PROFESSIONAL DEGREES.

The professional degree of Civil Engineer, Electrical Engineer, Mechanical Engineer or Mining Engineer, will be given six years after receiving the degree of Bachelor of Science, provided four years of the intervening time have been spent in a responsible position in practical engineering work in that department in which the degree of Bachelor of Science was received, and an approved thesis is submitted to the faculty, with a report of the character of the work done.

SPECIAL ONE-YEAR COURSE IN AGRICULTURE.

Young men over twenty-one years of age who desire to study agriculture will be permitted, without examination, to enter any class under the professor of agriculture, and will be excused from reciting in any other class, from military duty, and from all other college duties; but will be under the general college regulations, and will be required to have their time fully occupied.

They may attend the lectures in agriculture in all the classes and engage in the practical work at the experiment station, in the field, stock-yard, dairy, garden, orchard, vineyard, etc., and may thus, in one year acquire valuable practical knowledge of scientific agriculture.

Laboratory instruction constitutes an important feature in the course of education provided for the students of this institute, and as far as possible all students are required to enter upon laboratory work in some one department.

Laboratory instruction and practical work are given in the following departments:

I. CIVIL ENGINEERING, FIELD WORK, SURVEYING, ETC.

II. ELECTRICAL ENGINEERING, TELEPHONE ENGINEERING.

III. MECHANICAL ENGINEERING.

IV. MINING ENGINEERING.

V. MECHANIC ARTS.

VI. TECHNICAL DRAWING.

VII. PHYSICS.

VIII. MINERALOGY.

IX. CHEMISTRY, METALLURGY.

X. AGRICULTURE, ANIMAL INDUSTRY.

XI. VETERINARY SCIENCE, BACTERIOLOGY, PHYSIOLOGY.

XII. HORTICULTURE.

XIII. BOTANY.

XIV. BIOLOGY.

XV. PHARMACY.

XVI. ENTOMOLOGY.

XVII. PHOTOGRAPHY.

NOTE.—Special work in English or History may be taken by students in the general course as a substitute for laboratory work.

I. COURSE IN CHEMISTRY AND AGRICULTURE.

The numerals opposite the subjects indicate the number of hours per week.

FRESHMAN CLASS.

First Term.	*Second Term.*	*Third Term.*
5. English.	5. English.	5. English.
2. History.	2. History.	3. History.
5. Mathematics.	5. Mathematics.	5. Mathematics.
3. Elementary Physics.	3. Elementary Physics.	2. Agriculture.
3. Drawing.	3. Drawing.	3. Drawing.
6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y.
3. Military Drill.	3. Military Drill.	3. Military Drill.

SOPHOMORE CLASS.

First Term.	*Second Term.*	*Third Term.*
3. English.	3. English.	3. English.
3. History.	3. History.	3. Botany.
5. Mathematics.	5. Mathematics.	5. Mathematics.
3. General Chemistry.	3. General Chemistry.	3. General Chemistry.
2. Agriculture.	2. Agriculture.	2. Agriculture.
2. Physiology.	2. Physiology.	2. Physiology.
3. Drawing.	3. Drawing.	3. Drawing.
2. Chemical Lab'y.	2. Chemical Lab'y.	2. Chemical Lab'y.
4. Mechanic Art Lab'y.	4. Mechanic Art Lab'y.	4. Agricultural Lab'y.
4. Agricultural Lab'y.	4. Agricultural Lab'y.	4. Botanical Lab'y.
3. Military Drill.	3. Military Drill.	3. Military Drill.

JUNIOR CLASS.

First Term.	*Second Term.*	*Third Term.*
3. English (a).	3. English (a).	3. English (a).
3. Physics.	3. Physics.	3. Physics.
2. Agricultural Chem.	2. Agricultural Chem.	3. Industrial Chem.
2. Agriculture.	2. Agriculture.	2. Horticulture.
2. Botany.	2. Botany.	2. Botany.
2. Veterinary Science.	2. Horticulture.	2. Veterinary Science.
1. Military Tactics.	2. Veterinary Science.	1. Military Tactics.
3. Clinical Lab'y.	1. Military Tactics.	3. Clinical Lab'y.
6. Chemical Lab'y.	3. Clinical Lab'y.	6. Chemical Lab'y.
2. Botanical Lab'y.	6. Chemical Lab'y.	2. Botanical Lab'y.
2. Agricultural Lab'y.	2. Botanical Lab'y.	4. Horticultural Lab'y
3. Military Drill.	4. Horticultural Lab'y.	3. Military Drill.
	2. Agricultural Lab'y.	
	3. Military Drill.	

SENIOR CLASS.

First Term.	*Second Term.*	*Third Term.*
2. English Literature (a).	2. Political Econ'y (a).	2. Political Econ'y (a).
2. Geology.	2. Geology.	2. Geology.
2. Botany.	2. Botany.	2. Botany.
2. Agriculture.	2. Agriculture.	2. Agriculture.
3. Entomology.	3. Horticulture.	3. Horticulture.
2. Animal Industry.	2. Animal Industry.	2. Bacteriology.

2. Veterinary Science.	2. Veterinary Science.	2. Veterinary Science.
1. Military Science.	1. Military Science.	1. Military Science.
6. Chemical Lab'y.	6. Chemical Lab'y.	6. Chemical Lab'y.
3. Clinical Lab'y.	3. Clinical Lab'y.	3. Clinical Lab'y.
4. Botanical Lab'y.	4. Botanical Lab'y.	4. Botanical Lab'y.
2. Agric. Lab'y. (1, 2).	2. Agric. Lab'y. (1, 2).	

(a) French or German may be substituted.

II. COURSE IN CIVIL ENGINEERING.

The numerals opposite the subjects indicate the number of hours per week.

FRESHMAN CLASS.

First Term.	*Second Term.*	*Third Term.*
5. English.	5. English.	5. English.
2. History.	2. History.	3. History.
5. Mathematics.	5. Mathematics.	5. Mathematics.
3. Elementary Physics.	3. Elementary Physics.	2. Agriculture.
3. Drawing.	3. Drawing.	3. Drawing.
6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y.
3. Military Drill.	3. Military Drill.	3. Military Drill.

SOPHOMORE CLASS.

First Term.	*Second Term.*	*Third Term.*
3. English.	3. English.	3. English.
3. History.	3. History.	3. Elem't'y Mechanics.
5. Mathematics.	5. Mathematics.	5. Mathematics.
3. General Chemistry.	3. General Chemistry.	3. General Chemistry.
3. Descriptive Geo'try.	3. Descriptive Geo'try.	3. Descriptive Geo'try.
3. Drawing (a).	3. Drawing (a).	3. Drawing (a).
4. Mechanic Art Lab'y.	4. Mechanic Art Lab'y.	4. Mechanic Art Lab'y.
2. Chemical Lab'y.	2. Chemical Lab'y.	2. Chemical Lab'y.
2. Physical Lab'y.	2. Physical Lab'y.	2. Physical Lab'y.
3. Military Drill.	3. Military Drill.	3. Military Drill.

JUNIOR CLASS.

First Term.	*Second Term.*	*Third Term.*
3. English, French, or German.	3. English, French, or German.	3. English, French, or German.
3. Physics.	3. Physics.	3. Physics.
5. Mathematics.	5. Mathematics.	5. Mathematics.
5. Civil Engineering.	5. Civil Engineering.	5. Civil Engineering.
5. Drawing.	5. Drawing.	5. Drawing.
1. Military Tactics.	1. Military Tactics.	1. Military Tactics.
6. Lab'y. Mechanic Arts, (b).	6. Lab'y. Mechanic Arts, (b).	6. Lab'y. Mechanic Arts, (b).
1. Field Work, Engineering.	1. Field Work, Engineering.	1. Field Work, Engineering.
3. Military Drill.	3. Military Drill.	3. Military Drill.

SENIOR CLASS.

First Term.	*Second Term.*	*Third Term.*
2. English Literature, (c).	2. Political Economy (c).	2. Political Economy c).
2. Physics.	2. Physics.	2. Astronomy.
2. Geology.	2. Geology.	2. Geology.
3. Mathematics.	3. Mathematics.	3. Mathematics.
5. Civil Engineering.	5. Civil Engineering.	5. Civil Engineering.
5. Drawing.	5. Drawing.	5. Drawing.
1. Military Science.	1. Military Science.	1. Military Science.
4. Mech. Eng. Lab'y.	4. Mech. Eng. Lab'y.	4. Mech. Eng. Lab'y.
Field Work Engineering.	Field Work Engineering.	Field Work Engineering.

(a) Mechanical drawing may be substituted. (b) Or Mineralogy.

(c) French or German may be substituted.

III. COURSE IN ELECTRICAL ENGINEERING.

In freshman and sophomore classes the same studies are prescribed as in Course II in Civil Engineering.

JUNIOR CLASS.

First Term.	*Second Term.*	*Third Term.*
3. English, French, or German.	3. English, French, or German.	3. English, French, or German.
3. Physics.	3. Physics.	3. Physics.
5. Mathematics.	5. Mathematics.	5. Mathematics.
4. Electrical Engineering.	4. Electrical Engineering.	4. Electrical Engineering.
3. Mechanical Engineering.	3. Mechanical Engineering.	3. Mechanical Engineering.
4. Mechanical Drawing	4. Mechanical Drawing	4. Mechanical Drawing
4. Electrical Lab'y.	4. Electrical Lab'y.	4. Electrical Lab'y.
6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y.
1. Military Tactics.	1. Military Tactics.	1. Military Tactics.
3. Military Drill.	3. Military Drill.	3. Military Drill.

SENIOR CLASS.

First Term.	*Second Term.*	*Third Term.*
2. English Literature (a).	2. Political Econ'y (a).	2. Political Econ'y (a).
2. Physics.	2. Physics.	2. Astronomy.
3. Mathematics.	3. Mathematics.	3. Mathematics.
5. Electrical Engineering.	5. Electrical Engineering.	5. Electrical Engineering.
2. Telephone Engineering.	2. Telephone Engineering.	2. Telephone Engineering.
5. Steam Engines and Boilers.	5. Heat and Heat Engines.	5. Heat and Heat Engines.
1. Military Science.	1. Military Science.	1. Military Science.
		1. Specifications and Contracts.

2. Electrical Designing	2. Electrical Designing	2. Electrical Designing
4. Electrical Lab'y.	4. Electrical Lab'y.	4. Electrical Lab'y.
2. Telephone Lab'y.	2. Telephone Lab'y.	2. Telephone Lab'y.
4. Mech. Eng. Lab'y.	4. Mech. Eng. Lab'y.	4. Mech. Eng. Lab'y.

(a) French or German may be substituted.

IV. COURSE IN MECHANICAL ENGINERING.

In freshman and sophomore classes the same studies are prescribed as in Course II in Civil Engineering, and in the junior class, the studies are the same as in Course III in Electrical Engineering.

SENIOR CLASS.

First Term.	*Second Term.*	*Third Term.*
2. English Literature (a).	2. Political Econ'y (a).	2. Political Econ'y (a).
2. Physics.	2. Physics.	2. Astronomy.
3. Mathematics.	3. Mathematics.	3. Mathematics.
5. Electrical Engineering.	5. Materials of Construction.	5. Hydraulics.
5. Power Plant Engineering.	5. Heat and Heat Engines.	5. Heat and Heat Engines.
2. Steam Boilers.	2. Gas Engines.	2. Contracts and Specifications
1. Machine Design, Lectures.	1. Machine Design, Lectures.	1. Machine Design, Lectures.
6. Machine Design, Drawing.	6. Machine Design, Drawing.	6. Machine Design, Drawing.
2. Electrical Lab'y.	2. Electrical Lab'y.	2. Electrical Lab'y.
4. Mechanical Lab'y.	4. Mechanical Lab'y.	4. Mechanical Lab'y.
1. Military Science.	1. Military Science.	1. Military Science.

(a) French or German may be substituted.

V. COURSE IN MINING ENGINEERING.

In freshman and sophomore classes the same studies are prescribed as in Course II in Civil Engineering.

JUNIOR CLASS.

First Term.	*Second Term.*	*Third Term.*
3. German (a).	3. German (a).	3. German (a).
3. Physics.	3. Physics.	3. Physics.
5. Mathematics.	5. Mathematics.	5. Mathematics.
5. Mining Engineering.	5. Mining Engineering.	5. Mining Engineering.
5. Drawing.	5. Drawing.	5. Drawing.
4. Lab'y. Mineralogy.	4. Lab'y. Mineralogy.	4. Lab'y. Mineralogy.
4. Machine Shop.	4. Machine Shop.	4. Machine Shop.

3. Field Work.	3. Field Work.	3. Field Work.
1. Military Tactics.	1. Military Tactics.	1. Military Tactics.
3. Military Drill.	3. Military Drill.	3. Military Drill.

SENIOR CLASS.

First Term.	*Second Term.*	*Third Term.*
2. German (a).	2. German (a).	2. German (a).
2. Physics.	2. Physics.	2. Astronomy.
2. Geology.	2. Geology.	2. Geology.
3. Mathematics.	3. Mathematics.	3. Mathematics.
3. Mining Engineering.	3. Mining Engineering.	3. Mining Engineering.
2. Electrical Engineering.	2. Electrical Engineering.	3. Drawing.
2. Metallurgy.	2. Metallurgy.	2. Metallurgy.
3. Drawing.	3. Drawing.	1. Military Science.
1. Military Science.	1. Military Science.	8. Chem. Lab'y. and Assaying.
8. Chem. Lab'y. and Assaying.	8. Chem. Lab'y. and Assaying.	
3. Field Work.	3. Field Work.	3. Field Work.

(a) French or English may be substituted.

VI. CHEMISTRY AND METALLURGY.

The numerals opposite the subjects indicate the number of hours per week. In the freshman and sophomore classes the same studies are prescribed as in Course I in Agriculture and Chemistry, or in Course VIII. in General Course.

JUNIOR CLASS.

First Term.	*Second Term.*	*Third Term.*
3. English.	3. English.	3. English.
3. Physics.	3. Physics.	3. Physics.
4. Industrial Chemistry.	4. Industrial Chemistry.	4. Industrial Chemistry.
2. Organic Chemistry.	2. Organic Chemistry.	2. Organic Chemistry.
4. *Miner'l'gy (Laby.)	4. *Miner'l'gy (Laby.)	4. *Miner'l'gy (Laby.)
2. Economic Geology.	2. Economic Geology.	2. Economic Geology.
1. Military Science.	1. Military Science.	1. Military Science.
9. Chemical Lab'y.	9. Chemical Lab'y.	9. Chemical Lab'y.
3. Military Drill.	3. Military Drill.	3. Military Drill.

SENIOR CLASS.

First Term.	*Second Term.*	*Third Term.*
2. English Literature.	2. Political Economy	2. Political Economy
2. Physics or Physical Chemistry.	2. Physics or Physical Chemistry.	2. Astronomy.
3. German or French.	3. German or French.	3. German or French.
2. Geology.	2. Geology.	2. Geology.
3. Metallurgy and Engineering Chem.	3. Metallurgy and Engineering Chem.	3. Metallurgy and Engineering Chem.
2. Theoretical Chem.	2. Theoretical Chem.	2. Theoretical Chem.
1. Military Science.	1. Military Science.	1. Military Science.
9. Chem. Lab'y. and Assaying.	9. Chem. Lab'y. and Assaying.	9. Chem. Lab'y. and Assaying.
3. Metallurgical Designing.	3. Metallurgical Designing.	3. Metallurgical Designing.

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*Mechanic Art Laboratory may be substituted.

VII. COURSE IN PHARMACY.

The numerals opposite the subjects indicate the number of hours per week.

FRESHMAN CLASS.

First Term.	*Second Term.*	*Third Term.*
3. English.	3. English.	3. English.
2. History.	2. History.	2. History.
4. Latin.	4. Latin.	3. Latin.
5. Mathematics.	5. Mathematics.	5. Mathematics.
3. Drawing.	3. Drawing.	3. Drawing.
6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y.	2. Agriculture.
3. Military Drill.	3. Military Drill.	6. Mechanic Art Lab'y.
		3. Military Drill.

SOPHOMORE CLASS.

First Term.	*Second Term.*	*Third Term.*
5. Latin.	5. Latin.	5. Latin.
3. History.	3. History.	3. Botany.
5. Mathematics.	5. Mathematics.	5. Mathematics.
3. General Chemistry.	3. General Chemistry.	3. General Chemistry.
2. Physiology.	2. Physiology.	2. Physiology.
3. Drawing.	3. Drawing.	3. Drawing.
6. Chemical Lab'y.	6. Chemical Lab'y.	6. Chemical Lab'y.
3. Military Drill.	3. Military Drill.	4. Botanical Lab'y.
		3. Military Drill.

JUNIOR CLASS.

First Term.	*Second Term.*	*Third Term.*
3. English (a).	3. English (a).	3. English (a).
3. Physics.	3. Physics.	3. Physics.
4. Botany.	4. Botany.	4. Botany.
3. Pharmacy.	3. Pharmacy.	3. Pharmacy.
4. Pharmacognosy.	4. Pharmacognosy.	4. Pharmacognosy.
6. Chemical Lab'y.	6. Chemical Lab'y.	6. Chemical Lab'y.
1. Military Tactics.	1. Military Tactics.	1. Military Tactics.
3. Military Drill.	3. Military Drill.	3. Military Drill.

SENIOR CLASS.

First Term.	*Second Term.*	*Third Term.*
3. Bacteriology.	3. Bacteriology.	3. Materia Medica.
2. Organic Chemistry.	2. Organic Chemistry.	2. Organic Chemistry.
5. Pharmacy.	5. Pharmacy.	5. Pharmacy.
4. Prescriptions.	4. Prescriptions.	4. Prescriptions.
1. Military Science.	1. Military Science.	1. Military Science.
6. Chemical Lab'y.	6. Chemical Lab'y.	6. Chemical Lab'y.
3. Bacteriology Lab'y.	3. Bacteriology Lab'y.	7. Toxicology.
15. Pharmaceutical Lab'y.	15. Pharmaceutical Lab'y.	3. Urinalysis.
		15. Pharmaceutical Lab'y.

(a) French or German may be substituted.

VIII. GENERAL COURSE.

The numerals opposite the subjects indicate the number of hours per week.

FRESHMAN CLASS.

First Term.	*Second Term.*	*Third Term.*
3. English.	3. English.	3. English.
2. History.	2. History.	3. History.
4. Latin.	4. Latin.	3. Latin.
5. Mathematics.	5. Mathematics.	5. Mathematics.
3. Drawing.	3. Drawing.	2. Agriculture.
6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y.	3. Drawing.
3. Military Drill.	3. Military Drill.	6. Mechanic Art Lab'y.
		3. Military Drill.

SOPHOMORE CLASS.

First Term.	*Second Term.*	*Third Term.*
5. Latin.	5. Latin.	5. Latin.
3. History.	3. History.	3. History (a).
5. Mathematics.	5. Mathematics.	5. Mathematics.
3. General Chemistry.	3. General Chemistry.	3. General Chemistry.
3. Drawing.	3. Drawing.	3. Drawing.
4. Mechanic Art. Lab'y.	4. Mechanic Art Lab'y.	4. Mechanic Art Lab'y.
2. Chemical Lab'y.	2. Chemical Lab'y.	2. Chemical Lab'y.
3. Military Drill.	3. Military Drill.	3. Military Drill.

JUNIOR CLASS.

First Term.	*Second Term.*	*Third Term.*
3. English.	3. English.	3. English.
3. Physics.	3. Physics.	3. Physics.
3. Mathematics.	3. Mathematics.	3. Mathematics.
3. French.	3. French.	3. French.
3. German.	3. German.	3. German.
3. Latin.	3. Latin.	3. Latin.
1. Military Tactics.	1. Military Tactics.	1. Military Tactics.
6. Lab'y. Work (b).	6. Lab'y. Work (b).	6. Lab'y. Work (b).
3. Military Drill.	3. Military Drill.	3. Military Drill.

SENIOR CLASS.

First Term.	*Second Term.*	*Third Term.*
2. English.	2. Political Economy	2. Political Economy
2. Mental Science.	2. Mental Science.	2. Mental Science.
		2. Astronomy.
2. Geology.	2. Geology.	2. Geology.
4. French.	4. French.	4. French.
4. German.	4. German.	4. German.
3. Latin.	3. Latin.	3. Latin.
1. Military Science.	1. Military Science.	1. Military Science.
6. Lab'y. Work (b).	6. Lab'y. Work (b).	6. Lab'y. Work (b).

(a) Botany or Mechanics may be substituted. (b) The student may elect the laboratory of any department for which he may be qualified.

IX. TWO-YEAR COURSE IN MECHANIC ARTS.

FIRST YEAR.

First Term.	*Second Term.*	*Third Term.*
5. English.	5. English.	5. English.
2. History.	2. History.	3. History.
5. Mathematics.	5. Mathematics.	5. Mathematics.
3. Elementary Physics.	3. Elementary Physics.	2. Agriculture.
3. Drawing.	3. Drawing.	3. Drawing.
6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y.
3. Military Drill.	3. Military Drill.	3. Military Drill.

SECOND YEAR.

First Term.	*Second Term.*	*Third Term.*
3. English.	3. English.	3. English.
5. Mathematics.	5. Mathematics.	5. Mathematics.
3. Physics.	3. Physics.	3. Physics.
3. Drawing.	3. Drawing.	3. Drawing.
12. Mech. Art Lab'y.	12. Mech. Art Lab'y.	12. Mech. Art Lab'y.
3. Military Drill.	3. Military Drill.	3. Military Drill.

X. TWO-YEAR COURSE IN AGRICULTURE.

FIRST YEAR.

First Term.	*Second Term.*	*Third Term.*
3. English.	3. English.	3. English.
2. Physiology.	2. Physiology.	2. Physiology.
5. Mathematics.	5. Mathematics.	5. Mathematics.
3. Elementary Physics.	3. Elementary Physics.	2. Agriculture.
3. Drawing.	3. Drawing.	3. Botany.
6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y.	4. Botanical Lab'y.
4. Agricultural Lab'y.	4. Agricultural Lab'y.	3. Horticulture.
3. Clinical Lab'y.	3. Clinical Lab'y.	4. Practical Agricult're
3. Military Drill.	3. Military Drill.	3. Clinical Lab'y.
		3. Military Drill.

SECOND YEAR.

First Term.	*Second Term.*	*Third Term.*
3. English.	3. English.	3. English.
4. Agriculture.	4. Agriculture.	4. Agriculture.
3. Chemistry.	3. Chemistry.	3. Chemistry.
2. Veterinary Science.	2. Veterinary Science.	2. Veterinary Science.
	2. Horticulture.	2. Horticulture.
4. Agricultural Lab'y.	4. Agricultural Lab'y.	4. Agricultural Lab'y.
	2. Horticultural Lab'y.	2. Horticultural Lab'y.
2. Chemical Lab'y.	2. Chemical Lab'y.	2. Chemical Lab'y.
3. Clinical Lab'y.	3. Clinical Lab'y.	3. Clinical Lab'y.
3. Military Drill.	3. Military Drill.	3. Military Drill.

XI. TWO-YEAR COURSE IN PHARMACY.

FIRST YEAR.

First Term.	*Second Term.*	*Third Term.*
3. English.	3. English.	3. Botany.
3. General Chemistry.	3. General Chemistry.	3. General Chemistry.
2. Chemical Lab'y.	2. Chemical Lab'y.	2. Chemical Lab'y.
2. Physiology.	2. Physiology.	2. Physiology.
3. Pharmacy.	3. Pharmacy.	3. Pharmacy.
4. Pharmacognosy.	4. Pharmacognosy.	4. Pharmacognosy.
6. Chemical Lab'y.	6. Chemical Lab'y.	6. Chemical Lab'y.
3. Military Drill.	3. Military Drill.	4. Botanical Lab'y.
		3. Military Drill.

SECOND YEAR.

First Term.	*Second Term.*	*Third Term.*
5. Pharmacy.	5. Pharmacy.	5. Pharmacy.
3. Prescriptions.	3. Prescriptions.	3. Prescriptions.
15. Pharmaceutical Lab'y.	15. Pharmaceutical Lab'y.	15. Pharmaceutical Lab'y.
2. Organic Chemistry.	2. Organic Chemistry.	2. Organic Chemistry.
6. Chemical Lab'y.	6. Chemical Lab'y.	6. Toxicology.
6. Bacteriology.	6. Bacteriology.	3. Materia Medica.
4. Botany.	4. Botany.	4. Botany.
3. Military Drill.	3. Military Drill.	3. Military Drill.

XII. THREE-YEAR COURSE IN PHARMACY.

In the first and second years the same studies are prescribed as in Course XI.

THIRD YEAR.

First Term.	*Second Term.*	*Third Term.*
20. Pharmaceutical Chemistry and Lab'y.	20. Pharmaceutical Chemistry and Lab'y.	20. Pharmaceutical Chemistry and Lab'y.
15. Chemistry and Chemical Lab'y.	15. Chemistry and Chemical Lab'y.	15. Chemistry and Chemical Lab'y.
3. Bacteriological Lab'y.	3. Bacteriological Lab'y.	3. Bacteriological Lab'y.

XIII. THREE-YEAR COURSE IN VETERINARY MEDICINE.

FIRST YEAR.

First Term.	*Second Term.*	*Third Term.*
3. General Chemistry.	3. General Chemistry.	3. General Chemistry.
2. Physiology.	2. Physiology.	2. Physiology.
3. Physics.	3. Physics.	3. Physics.
2. Anatomy.	2. Anatomy.	2. Anatomy.
5. Microscopy.	5. Histology.	5. Embryology.
2. Live stock management.	2. Live stock management.	2. Feeding live stock.
12. Anatomy Lab'y.	12. Anatomy Lab'y.	12. Anatomy Lab'y.
6. Chemical Lab'y.	6. Chemical Lab'y.	6. Chemical Lab'y.

SECOND YEAR.

First Term.	*Second Term.*	*Third Term.*
2. Botany.	2. Poisonous Plants.	2. Medicinal Plants.
2. Organic Chemistry.	2. Organic Chemistry.	2. Organic Chemistry.
3. Pharmacy.	3. Pharmacy.	3. Pharmacy.
2. Comparative Physiology.	2. Comparative Physiology.	2. Comparative Physiology.
3. Bacteriology.	3. Bacteriology.	3. Materia Medica.
2. Obstetrics.	2. Surgery.	2. Surgery.
3. Veterinary Medicine	3. Veterinary Medicine	3. Veterinary Medicine
	3. Pathology.	3. Pathology.
3. Bacteriology Lab'y.	3. Bacteriology Lab'y.	3. Surgical Exercises.
	3. Pathology Lab'y.	3. Pathology Lab'y.
12. Anatomy and Clinical Lab'y.	12. Anatomy and Clinical Lab'y.	12. Anatomy and Clinical Lab'y.

THIRD YEAR.

First Term.	*Second Term.*	*Third Term.*
2. Animal Husbandry.	2. Animal Husbandry.	7. Toxicology.
3. Therapeutics.	3. Therapeutics.	3. Urine Analysis.
2. Surgery.	2. Surgery.	2. Surgery.
3. Veterinary Medicine	3. Veterinary Medicine	3. Veterinary Medicine
2. Infectious Diseases.	2. Infectious Diseases.	2. Infectious Diseases.
2. Parasites.	2. Parasites.	
3. Special Pathology.	3. Milk and Meat Inspection.	
12. Anatomy and Clinical Laboratory.	12. Anatomy and Clinical Laboratory.	12. Anatomy and Clinical Laboratory.
4. Thesis.	4. Thesis.	4. Thesis.

HOURS	MONDAY.	TUESDAY.	WEDNESDAY.	THURSDAY.	FRIDAY.	SATURDAY
I. 8-9.	4. Algebra. 3. Latin. 2. Pharmacy. 2. Mech. Engineer'g. 2. Horticult. Lab'y. (2-3). 1 and 2 Drawing. 1. Elec. Engineer'g. 1. Botany. 1. German. 1. Bacteriology.	4. Geometry. 3. Agriculture. 3. Latin. 2. Mineralogy. 2. German. 2. Botany. 1 and 2 Drawing. 1. Elec. Engineer'g.	4. Algebra. 3. Latin. 2. Pharmacy. 2. Vet. Science. 2. Mech. Engineer'g. 1. Botany. 1 and 2. Drawing. 1. Elec. Engineer'g. 1. German.	4. Geometry. 3. Latin. 2. German. 2. Botany. 2. Mech. Engineer'g. 2. Mineralogy. 1 and 2. Drawing. 1. Elec. Engineer'g.	4. Algebra. 3. Latin. 2. Pharmacy. 2. Veterinary Sci. 1 and 2. Drawing. 1. Elec. Engineer'g. 1. German.	Exercises in Elocution.
	[illegible]	[illegible]	2. Pharmacognosy. 1. English (1-2.) 1. Pol. Econ. (2-3.)	[illegible]	4. English	Military Drill
V. 12-1	4. Drawing. 4. Mechanic Arts. 3. Mathematics. 2. English. 1. Electric Designing. 1. Agriculture. 1. French. 1. Pharmacy. 1. Mining Engineer'g.	3. Mathematics. 2. English. 1. Geology. 1. Pharmacy. 1. Mech. Engineer'g.	4. Drawing. 4. Mechanic Arts. 3. Mathematics. 2. German. 2. Anal. Chemistry. 1. Pharmacy. 1. Min. Engineer'g.	3. Mathematics. 2. English. 1. Geology. 1. Pharmacy. 1. Mech. Engineer'g.	4. Drawing. 4. Mechanic Arts. 3. Mathematics. 2. Military Tactics. 1. Pharmacy. 1. Mining Engineer'g.	3. Mechanic Arts. 4. Mechanic Arts. Chemical Lab'y. Electrical Lab'y. Physical Lab'y. Veterinary Clinics Field Civil and Mining Engineering.
P. M. 2-6.	4. Mechanic Arts. 3. Mechanic Arts. 3. Physical Lab'y. 3. Descriptive Geom. 3. Field Work, Agr. 3. Botanical Lab. (3.) 1 and 2. Lab. Chem. 1 and 2. Field Work, Engineering. 1 and 2. Mach. Work. 1 and 2. Elec. Lab'y. 1. Mech. Lab'y.	4. Mechanic Arts. 3. Mechanic Arts. 3. Descript. Geom. 3. Botanical Lab. (3) 2. Mineralogical Lab. 2. Agriculture (1-2.). 1 and 2. History. Elec. Lab. Work. Military Drill *.	4. Mechanic Arts. 3. Mechanic Arts. 3. Physical Lab'y. 3. Descript. Geom. 3. Field Work, Agri. 3. Botanical Lab. (3) 3. Exercises in Elocution. 1 and 2 Lab. Chem. 1 and 2. Field Work. Engineering. 1 and 2 Mach. Work. 1. Mech. Lab'y. Elec. Lab. Work.	4. Mechanic Arts. 3. Mechanic Arts. 3. Descript. Geom. 3. Botanical Lab'y. (3) 2. Mineralogical Lab. 2. Elec. Lab. Work. 2. Horticulture Lab'y. 1 and 2. History. 1. Agriculture (1-2.) 1. Telephone Lab'y. Military Drill *.	4. Mechanic Arts. 3. Mechanic Arts. 3. Descript. Geom. 3. Physical Lab'y. 3. Exercises in Elocution. 2. French. 1 and 2. Lab. Chem. 1 and 2. Field Work. Engineering. 1 and 2 Mach. Work. 1. Mech. Lab'y. Elec. Lab. Work.	

Chapel services daily at 7;45 a. m. *From 4:30 to 5:30 p. m.

Numbers prefixed denote classes—1 denotes senior; 2, junior, etc. Numbers affixed—(1), (2), (3), denote terms.

SCHEDULE OF EXERCISES.

HOURS	MONDAY.	TUESDAY.	WEDNESDAY.	THURSDAY.	FRIDAY.	SATURDAY
I. 8-9.	4. Algebra. 3. Latin. 2. Pharmacy. 2. Mech. Engineer'g. 2. Horticult. Lab'y. (2-3). 1 and 2 Drawing. 1. Elec. Engineer'g. 1. Botany. 1. German. 1. Bacteriology.	4. Geometry. 3. Agriculture. 3. Latin. 2. Mineralogy. 2. German. 2. Botany. 1 and 2 Drawing. 1. Elec. Engineer'g.	4. Algebra. 3. Latin. 2. Pharmacy. 2. Vet. Science. 2. Mech. Engineer'g. 1. Botany. 1 and 2. Drawing. 1. Elec. Engineer'g. 1. German.	4. Geometry. 3. Latin. 2. German. 2. Botany. 2. Mech. Engineer'g. 2. Mineralogy. 1 and 2. Drawing. 1. Elec. Engineer'g.	4. Algebra. 3. Latin. 2. Pharmacy. 2. Veterinary Sci. 1 and 2. Drawing. 1. Elec. Engineer'g. 1. German.	Exercises in Elocution.
II. 9-10.	4. English. 3. Chemistry. 2. Civil Engineer'g. 2. Elec. Engineer'g. 2. Mining Engineer'g. 2. Latin. 2. Horticulture (2-3.) 1. Calculus. 1. Botany (Lab'y.) 1. Bacteriology.	4. History. 3. Physiology. 3. Descriptive Geometry. 2. Civil Engineer'g. 2. Elec. Engineer'g. 2. Min. Engineer'g. 2. Botanical Lab'y. 1. Chemistry. 1. French. 1. Agriculture. 1. Machine Design. 1. Eng. Chem. and Metallurgy.	4. English. 3. Chemistry. 2. Civil Engineer'g. 2. Elec. Engineer'g. 2. Min. Engineer'g. 2. Latin. 2. Horticulture (2-3.) 1. Calculus. 1. Pharmacognosy. 1. Botany Lab'y.	4. History. 3. Agriculture. 2. Civil Engineer'g. 2. Botany. 2. Elec. Engineer'g. 2. Min. Engineer'g. 1. Chemistry. 1. French. 1. Veterinary Sci. 1. Machine Design. 1. Eng. Chem. and Metallurgy.	4. English. 3. Chemistry. 2. Civil Engineer'g. 2. Latin. 2. Mech. Drawing. 2. Min. Engineer'g. 2. Horticulture (2-3.) 1. Calculus. 1. Veterinary Sci.	Military Drill.
III. 10-11	4. Agriculture (3.) 3. English. 2. Physics. 1. Civil Engineer'g. 1. Botany (Lab'y.) 1. Latin. 1. Mech. Engineer'g. 1. Bacteriology.	4. English. 3. Botany (3.) 3. History. 3. Ele. Mechanics. (3) 2. Agricultural Chem. 2. French. 2. Mech. Drawing. 1. Telephone Eng'r. 1. Entomology. (1.) 1. Horticult. (2-3.) 1. Elec. Engineer'g. (Min. & Mech.) 1. Animal Industry. 1. Pharmacognosy. 1. Civil Engineer'g. 1. Mech. Engineer'g.	4. Agriculture (3.) 3. English. 2. Physics. 1. Latin. 1. Civil Engineer'g. 1. Mech. Engineer'g. 1. Botany (Lab'y.) 1. Engin. Contracts.	4. English. 3. History. 3. Botany. (3.) 3. Ele. Mechanics (3.) 2. Agri. Chemistry. 2. French. 2. Prac. Machinery. 1. Telephone Eng'r. 1. Entomology (1.) 1. Horticult. (2-3.) 1. Civil Engineer'g. 1. Elec. Engineer'g. (Min. & Mech.) 1. Mech. Engineer'g. 1. Animal Industry. 1. Pharmacognosy.	4. History (3.) 3. English. 2. Physics. 1. Civil Engineer'g. 1. Pharmacognosy. 1. Mech. Engineer'g.	Mechanic Arts. Chemical Lab'y. Electrical Lab'y. Physical Lab'y. Veterinary Clinics. Field, Civil and Mining Engineering.
IV. 11-12	4. Agriculture (3.) 4. Physics (1-2.) 4. Mechanic Arts. 4. Latin (1-2.) 3. Drawing. 2. Mathematics. 2. Chemistry. 2. Pharmacognosy. 1. English (1-2.) 1. Pol. Econ. (2-3.)	4. Latin. 3. Drawing. 2. Agriculture. 2. Mathematics. 2. Chemistry (Org.) 2. Pharmacognosy. 1. Physics. 1. Bacteriology. 1. Mental Science.	4. Physics (1-2). 4. Latin (3.) 4. Mechanic Arts. 4. Agriculture (3.) 3. History. 3. Botany (3). 3. Ele. Mechanics (3). 2. Mathematics. 2. Chemistry. 2. Pharmacognosy. 1. English (1-2.) 1. Pol. Econ. (2-3.)	4. Latin. 3. Physiology. 2. Mathematics. 2. Agriculture. 2. Chemistry (Org.) 1. Physics. 1. Bacteriology. 1. Mental Science.	4. Physics (1-2.) 4. Mechanic Arts. 4. Latin (1-2.) 3. Drawing. 2. Mathematics. 2. Chemistry. 2. Pharmacognosy. 1. Military Science.	1. Pharmaceutical Lab'y. 3. Mechanic Arts. Chemical Lab'y. Electrical Lab'y. Physical Lab'y. Veterinary Clinics. Field Civil and Mining Engineering.
V. 12-1	4. Drawing. 4. Mechanic Arts. 3. Mathematics. 2. English. 1. Electric Designing. 1. Agriculture. 1. French. 1. Pharmacy. 1. Mining Engineer'g.	3. Mathematics. 2. English. 1. Geology. 1. Pharmacy. 1. Mech. Engineer'g.	4. Drawing. 4. Mechanic Arts. 3. Mathematics. 2. German. 2. Anal. Chemistry. 1. Pharmacy. 1. Min. Engineer'g.	3. Mathematics. 2. English. 1. Geology. 1. Pharmacy. 1. Mech. Engineer'g.	4. Drawing. 4. Mechanic Arts. 3. Mathematics. 2. Military Tactics. 1. Pharmacy. 1. Mining Engineer'g.	3. Mechanic Arts. 4. Mechanic Arts. Chemical Lab'y. Electrical Lab'y. Physical Lab'y. Veterinary Clinics. Field Civil and Mining Engineering.
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LANGDON HALL

DEPARTMENTS OF INSTRUCTION.

ENGLISH AND POLITICAL ECONOMY.

PRESIDENT THACH.

PROFESSOR WIATT.

ASSISTANT PROFESSOR WEBB.

INSTRUCTOR RUTLAND.

INSTRUCTOR HERNDON.

OBJECTS AND METHODS.

In this department the students pursue a systematic course in the English language and literature.

Language is the avenue of approach to all knowledge; the interpretation of words is the fundamental process in education of whatsoever kind. A full course in English is, therefore, considered especially important in the technical courses of study that do not include the ancient classics. Accordingly, the course in English is continued throughout the four years of the college curriculum, three hours a week, and is made obligatory upon all students, with the exception of those pursuing the first two years of the course in Latin. In this extended drill in the grammar and literature of the English language, the endeavor is made to afford a training somewhat equivalent to the ordinary course in the classical languages.

In view of the ill preparation in languages, especially in their mother tongue, exhibited by many of the candidates for admission to the freshman class, it is deemed advisable, for the sake of honest work, to devote a portion of the first year to grounding such students in the principles of grammar.

Especial attention is given to the study of the writings themselves of leading American and British authors, since direct contact with literature is considered more profitable than information merely *about* literature.

All students before classed as regular in any course leading to a degree must conform to all the requirements in English for admission as set forth on page 46.

For requirements as to thesis and as to proficiency in English for certificates and degrees, see pages 55 and 121.

Declamations and themes (or orations) are required of *all regular* students. For details see below.

COURSES OF STUDY.

Freshman Class—Five hours a week; study of grammar, the principles of special and general composition, with frequent brief papers illustrating the laws studied; study of American authors; Irving, Hawthorne, Holmes, Poe, Bryant, Longfellow.

Bartlett and McBain's English Grammar, Lockwood and Emerson's Rhetoric, Anderson's Study of English Words.

Sophomore Class—Three hours a week; study of style, analysis of selections of prose and poetry; frequent essays on historic and literary themes.

Espenshade's Rhetoric, Genung's Rhetorical Analysis, Syle's From Milton to Tennyson, Halleck's History of English Literature.

Junior Class—Three hours a week; lectures on the history of English literature, critical study of English classics, essays.

Pancoast's History of English Literature; Pancoast's Standard English Poems, Macaulay, Carlyle, DeQuincey, etc.

Senior Class—Two hours a week, first term. Principles of Criticism, Shakespeare's Julius Caesar, Hamlet, etc. Dowden's Shakespeare, etc.

THEMES AND ORATIONS.

Theory without practice is as fruitless in the study of English as in any other department of study. Practical work is indispensable to the successful teaching of English.

Besides numerous brief papers illustrative of the subject matter of the text-books, set themes or orations are *required of all students*: For the freshman class *ten* themes a year; for the sophomore *ten*; for the senior and junior classes, *three* orations each.

DECLAMATION.

The old practice of committing pieces to memory for "speaking" is cultivated as a means, both of training in the art of thinking on the feet, and of storing the mind with the diction of finished specimens of English style.

The sophomore class is heard weekly throughout the year in sections of ten, once for an hour and a half in rehearsal, afterwards in the study-hall before the body of students.

The senior and junior classes also deliver their orations in public.

PHILOSOPHY AND POLITICAL ECONOMY.

The senior class pursue the study of intellectual science, twice a week, through the year; and political economy twice a week, during the last two terms. The instruction in this department is by lectures in combination with text-books.

Intellectual Science—Psychology defined. Value in relation to moral culture, education, and natural sciences. The relation of the soul to matter. The arguments of the materialist. Counter arguments. The faculties of the soul. The nature of consciousness. Sense Perception. Fancy. Imagination. Nature of conceptions. Language. Judgment. Reasoning. Deduction. Induction, etc. *Porter's Intellectual Science.*

Political Economy—Value; production of wealth; land; labor; capital; division of labor; distribution of wealth; wages; trades-union; tariff; education, etc. *Lectures by Professor. Ely's Outlines of Economics.*

A Post-graduate course has also been established in English. The following courses have been given:

(1) *Shakespeare*—Hamlet, Othello, Macbeth, Merchant of Venice, As You Like It, Henry IV., Part I., Richard III., King John.

(2) *Dryden—Poetical Works* (Christie); Essay on Dramatic *Poesy* (Thomas Arnold); *Essay on Satire, etc.*, (Yonge); Saintsbury's *Life of Dryden.*

Pope—Poetical Works (Ward); Satires (Pattison); Stephen's *Life of Pope;* Gosse's *From Shakespeare to Pope* and 18*th Century Literature.*

(3) *English Literature of the Eighteenth Century;* Addison, Pope, Gray, Goldsmith, Burns, Cowper, Burke.

(4) *American Literature*: Longfellow, Lowell, Poe.

(5) *The Rise and Development of the English Essay*: Bacon, Addison, Steele, Swift, Johnson, Goldsmith, Macaulay, DeQuincey, Lamb, Carlyle.

(6) *Milton—Poetical Works* (Masson); Life, Pattison, Brooks.

MATHEMATICS.

PROFESSOR CRENSHAW.

ASSOCIATE PROFESSOR WILSON.

ASSISTANT PROFESSOR PATRICK.

ASSISTANT PROFESSOR HILL.

INSTRUCTOR STOKES.

INSTRUCTOR SHI.

The subjects taught in the different classes in this Je-partment are as follows:

FRESHMAN CLASS. Algebra to logarithms, geometry (completed), original solution of exercises.

SOPHOMORE CLASS.—Advanced algebra, plane trigonometry, triangulation, surveying, mensuration.

JUNIOR CLASS. Analytic geometry, differential calculus.

SENIOR CLASS. Differential and integral calculus.

Two objects are sought to be obtained: First, mental discipline; second, a thorough knowledge of the principles of pure mathematics and their practical applications.

Theoretical and practical instruction is given to the sophomore class in land surveying, mapping, plotting and computing areas, etc., also in the theory, adjustment and use of instruments, and triangulation.

The class, in sections of six or eight, devote three afternoons a week during the second and third terms to field practice.

The completion of this course, common to all students, lays the foundation for the pure and applied mathematics of the mechanical and engineering courses. Analytic geometry, descriptive geometry,, and calculus are pursued in the engineering courses. Especial attention is given to their practical applications.

During the entire course, instruction in text-books is supplemented by lectures. Solutions of original practical problems are required of the student, to make him familiar with the application of principles and formulas.

TEXT-BOOKS.

Wentworth's Geometry, Fine's Algebra, Wentworth's Trigonometry and Surveying, Tanner & Allen's Analytic Geometry, Osborne's Calculus, Granville's Calculus, Johnson's Differential Equations, Osborne's Problems.

CIVIL ENGINEERING AND DRAWING.

PROFESSOR LANE.

INSTRUCTOR SHI.

ASSISTANT KILLEBREW.

The special studies in this department begin in the junior class, and require a good knowledge of algebra, geometry, trigonometry, and analytical mechanics. They are as follows:

Junior Class—Simple, compound, reversed, and parabolical curves, turnouts and crossings, leveling, gradients, setting slope stakes, etc.

Special attention is paid in this class to the location, construction, drainage, and maintenance of country roads; and the various pavements and foundations for the same.

Senior Class—Stresses of different kinds, beams, and girders of different kinds, columns, rivets and pins, determination of stresses by analytic and graphic methods, masonry, masonry dams and retaining walls, masonry arches, foundations, timber, metals, natural and artificial stones, bridges, trussed roofs and floors, highways, the pressure and flow of water, water supply, sewerage.

Theory and practice are combined in both classes.

TEXT-BOOKS.

Junior Class—Henck's Field Book for Railway Engineering, and Byrne's Highway Construction.

Senior Class—Fiebeger's Civil Engineering, and Von Ott's Graphic Statics.

DRAWING.

All students in the sophomore and freshman classes are required to take drawing; but only those in civil engineering in the junior and senior classes.

The freshman class is taught linear drawing. The sophomore class is instructed in the principles of orthographic and isometric projections, shades, shadows, perspective, and tinting. In the junior class the instruction embraces a more extended course in the above; also sketches of tools and machines; and plans, elevations, and cross sections of buildings. The senior class makes topographical drawings and drawings of machines, roofs, bridges, etc., to different scales, and blue prints. Plans, profiles, and sections of railroad surveys complete the instruction in this department.

TEXT-BOOKS.

Freshman Class—Kitchener's Geometrical Note Book, Davidson's Linear Drawing, and Davidson's Model Drawing.

Sophomore Class—Davidson's Projections, and Davidson's Perspective.

Junior Class—Davidson's Building Construction, Davidson's Drawing for Mechanics and Engineers, Keuffel & Esser's Alphabet.

Senior Class—French, English and American plates belonging to the College, Keuffel & Esser's Alphabet.

HISTORY AND LATIN.

PROFESSOR PETRIE.

ASSISTANT RENFRO.

HISTORY.

In this department the aim is not so much to memorize facts as to understand them. Strong emphasis is laid on the fact that history is not a succession of isolated facts, but a progressive whole, each event being at once the cause and the effect of other events. The students are taught to investigate the growth of ideas and institutions, the rise and progress of great historical movements, and the reciprocal influences of men and circumstances. Frequent use is made of diagrams, photographs, charts and maps, with which the department is well equipped. Instruction is given by text-books, lectures, and class discussion, but a constant effort is made to stimulate to wider reading and research in the library.

In the freshman class, the subjects studied are the United States, Alabama, and England. The first term (two hours per week) is devoted to the history and government of the United States; the second term (two hours per week) to Alabama; and the third term (three hours per week) to the history of England.

In the sophomore class (three hours per week until March) the subject studied is general European history.

HISTORICAL LABORATORY.

In the junior and senior classes opportunity for special work in United States history is given those students of the General Course who elect it as laboratory work, and to any others who are properly qualified. The chief object kept in view is training in historical research and in the formation of independent but careful opinions based on the original sources of information, as well as on the standard authorities. Emphasis is laid on the importance of securing proper material for investigation and every incentive is given to the collecton and use of new documents, papers and letters illustrative of Southern, and especially Alabama history.

The method of work is as follows: Informal lectures are given on important and suggestive points, as: The cause of the Revolution; the Constitutional Convention; the War of 1812; the Missouri Compromise; the Monroe Doctrine; Texas and Mexico; the Compromise of 1850; the Kansas Struggle; the Dred Scott Decision; Secession. After each lecture topics connected with it are assigned to the students with an outline of the points to be investigated. They report their results to the class and a discussion follows. The final results are collected by each student according to his own judgment in his note-book, which is then passed in to the professor for correction and suggestion.

Graduate students are expected to take part in the junior and senior discussions and in addition will meet with the professor for conference in reference to their work. Those who take history as their major subject are expected to devote a large part of their time to original research upon some topic upon which they can consult the original sources of information. They are also required to pursue a prescribed course of reading as indicated below:

TEXT-BOOKS.

Freshman Class—Ellson's History of U. S., Brown's History of Alabama; Montgomery's English History.

Sophomore Class—Myer's General History.

Junior and Senior Classes—MacDonald's Documents.

Graduate Course—Wilson's History of the American People, Fiske's Critical Period, Burgess's Middle Period, Burgess's Reconstruction and the Constitution.

LATIN.

The objects kept in view in this department are: An accurate knowledge of the forms and syntax; a familiarity with Latin words, their etymology and their English derivatives; an appreciation of Latin literature and an intelligent conception of Roman history and civilization both in themselves and in their effect on the modern world.

A systematic course of instruction is given in the forms and syntax. These are taught both deductively from a grammar and inductively from the text read. Translation is constantly practiced, sometimes at sight, sometimes after being assigned for preparation. English passages based on a familiar author or illustrative of special constructions are put in Latin, both orally and in writing. Great emphasis is laid on the etymology of the words in the text read.

In connection with every author studied in class a course of reading in English is prescribed descriptive of his life, work and times. The historical setting and the literary value of his writings are carefully discussed and frequent comparisons are made with modern authors.

In the freshman and sophomore classes the study of the language is the chief point. In the higher classes a broader view is taken. The junior class makes a special study of Roman history and Roman historians. The senior class studies Roman poetry and Roman life.

TEXT-BOOKS.

Freshman Class—Allen & Greenough's Grammar, Exercises, Nepos, Sallust or equivalent, Cicero.

Sophomore Class—Cicero, Allen & Greenough's Grammar, Bennett's Latin Composition, Guerber's Mythology.

Junior Class—Livy, Tacitus, Allen & Greenough's Grammar, Exercises, Botsford's History of Rome.

Senior Class—Horace, Plautus, Preston & Dodge's Private Life of Romans, Latin Literature, Allen & Greenough's Latin Grammar.

CHEMISTRY.

PROFESSOR ROSS.

ASSISTANT PROFESSOR HARE.

ASSISTANT PROFESSOR RANSOM.

INSTRUCTOR BRAGG.

ASSISTANT AVARY.

ASSISTANT DICKSON.

Instruction in this department embraces:

1. A course of lectures in general chemistry.
2. A course of lectures in industrial and engineering chemistry.

3. A course of lectures in organic chemistry.
4. A course of lectures in metallurgy.
5. A course of lectures in agricultural chemistry.
6. A course of lectures in theoretical chemistry.
7. Systematic laboratory work in connection with each course of lectures, for the practice of chemical analysis and chemical research.

1. Course in general chemistry: This consists of a series of lectures (three per week) extending throughout the entire session, and includes a discussion of the fundamental principles of chemical philosophy in connection with the history, preparation, properties and compounds of the metallic and non-metallic elements, with the main facts and principles of organic chemistry. In this course the more common applications of chemistry to the arts and manufactures are discussed. The apparatus used for experimental illustration is extensive, containing the newest and approved improvements necessary for presenting the subject in the most attractive and instructive form.

REFERENCE BOOKS.

Remsen's College Chemistry, Newth, Holleman, Roscoe & Schorlemmer, Chemical Journals.

2. Lectures in industrial chemistry (four per week) extend throughout the session, and include a discussion in detail of the process and chemical principles involved in the most important applications of chemistry in the arts and manufactures to the preparation of materials for food and drink, for clothing, shelter, illumination, cleansing, purifying, writing, printing, etc.

These lectures are amply illustrated by means of suitable specimens of raw materials and manufactured products, together with models and diagrams.

A course of lectures (two hours per week) on engineering chemistry is given during the last half of the senior year, especial attention being given to the study of the construction and equipment of chemical plants devoted to the manufacture of the more important chemical products. The study of texture chemistry will also be included in this series of lectures.

Excursions to various chemical and metallurgical plants during the course of the year will aid in familiarizing the student with the practical details of the operation of the leading industries.

REFERENCE BOOKS.

Thorp's Industrial Chemistry, Wagner's Chemical Technology; Muspratt's Chemistry as applied to Arts and Manufacturing, Ure's Dictionary, Watt's Dictionary, Sadtler's Industrial Organic Chemistry, Blount & Bloxam's Chemistry for Engineers and Manufacturers.

3. Course in organic chemistry: Instruction in this subject embraces lectures and recitations (two hours per week) throughout the junior year, upon the leading facts and principles of the chemistry of the carbon compounds, and includes a study of the methods of preparation of the more important compounds, their properties, and their structural and stereo-chemical relations.

TEXT AND REFERENCE BOOKS.

Remsen's Organic Chemistry, Richter's Organic Chemistry, Gatterman's Practical Method of Organic Chemistry.

4. Course in metallurgy: This consists of lectures and recitations (two per week, during the senior year) upon the more important metals, such as iron and steel, copper, lead, tin, silver, gold, mercury, zinc, etc. It includes a discussion of the physical and chemical properties of the metals and their alloys, the ores and their treatment, and the processes by which the metals are obtained from the ores, with chemical reactions involved.

5. Course in agricultural chemistry: This consists of lectures on chemistry in its application to agriculture (two

per week, during first and second terms), and includes a thorough discussion of the origin, composition and classification of soils, the composition and growth of plants, the sources of plant food and how obtained, the improvement of soils, the manufacture and use of fertilizers, the chemical principles involved in the rotation of crops, the feeding of live stock, and the various operations carried on by the intelligent and successful agriculturist.

6. Course in theoretical chemistry: Two lectures per week in this subject will be given throughout the senior year, especial attention being given to the more modern phases of chemical theory.

REFERENCE BOOKS.

Snyder's Soils and Fertilizers, Snyder's Chemistry of Plant and Animal Life, Johnson's How Crops Grow, and How Crops Feed, Lupton's Elementary Principles of Scientific Agriculture, Johnson and Cameron's Elements of Agricultural Chemistry, Storer's Agriculture in Relation to Chemistry, scientific journals, reports of the United States Department of Agriculture, and the bulletins and reports of the various home and foreign agricultural departments and stations.

7. The course of systematic laboratory work: This course of practical work in the laboratory is carried on in connection with each course of lectures. In the junior year the work embraces the practical operations of chemical synthesis and analysis, and includes the preparation of non-metallic elements and their most important compounds, in addition to a systematic study of the metals and their compounds, their separation and identification. In the senior year students pursue work in quantitative analysis, including analysis of fertilizers, soils, coals, ores, iron and steel, sugars and sugar products, feed stuffs, mineral waters, fluxes, slags, cinders, furnace gases, etc., the courses of work being varied somewhat to suit the individual object of the student.

In the course of Pharmacy, instruction in Toxicology and

Toxical Analysis is given during the last term of the senior year.

All students during the sophomore year are required to take two hours per week of practical laboratory work, instruction being given in the simplest methods of chemical manipulation. A portion of this time may be devoted to lectures and classwork in General Chemistry.

The laboratories, which are open from 9 A. M. to 5 P. M., during six days in the week, are amply supplied with everything necessary for instruction in chemical manipulation in qualitative and quantitative analysis, and in the methods of prosecuting chemical research. Unusual facilities are offered to students who wish to devote their time to the special study of practical chemistry.

Each student on entering the chemical laboratory is furnished with a work table, a set of re-agent bottles and the common reagents and apparatus used in qualitative and quantitative analysis.

At the close of the session he will be credited with such articles as may be returned in good order; the value of those which have been injured or destroyed, will be deducted from his contingent fee.

In addition to the laboratory work above described it is designed to give a short course of laboratory work in industrial chemistry, in which the student will apply upon a small scale the principles involved in the processes of some of the more important chemical industries.

Advanced students are afforded ample facilities for work in organic preparations and organic analysis.

TEXT-BOOKS.

In qualitative analysis—Jones, Sellers, Fresenius, Plattner.

In quantitative analysis—Fresenius, Cairns, Sutton, Rose, Blair's Analysis of Iron and Steele, Rickett's Notes on Assaying, Mitchell's Manual of Practical Assaying, Stillman's Engineering Chemistry, Lord's Metallurgical Analysis.

In agricultural chemical analysis—Official methods of the Association of Agricultural Chemists, Wiley's Principles and Practice of Agricultural Analysis.

CHEMICAL LABORATORY.

(For description of building see page 18.)

The chemical apparatus recently purchased for the laboratory consists of a full supply of the most approved instruments for practical work and investigation. The building is supplied with water and gas and every appliance required to meet the demands of modern scientific instruction and research. In addition to the apparatus usually supplied to first-class laboratories, there have been imported a new and improved Schmidt and Hensch's polariscope, eight short-arm balances of latest pattern, Bunsen's spectroscope, Abbe refractometer, and other instruments for delicate and accurate work.

PHYSICS.

PROFESSOR SOUTHALL.

ASSISTANT WEBER.

The complete course of Physics extends over four years, and is designed to give, as far as possible, an adequate and correct idea of the methods of Physical Science and to lay the foundation for subsequent more advanced work if (as must often be the case, especially in an institution such as this) the student desires to pursue the subject further or intends to engage in any of the great engineering professions of which Physics is so important a basis. The lectures are illustrated by experiments; the students are required to work numerous problems and exercises; recitations are held each week.

FRESHMAN COURSE.

This course is very elementary, and continues only during the first and second terms. The object in view is to make the student familiar with the fundamental principles of Physics. The class meets three times a week. (The text-book will be announced later.)

SOPHOMORE COURSE.

This is a laboratory course, and deemed especially important for students of engineering, and of great advantage to such as intend to pursue the subsequent higher work in this department. The laboratory exercises are carefully selected, being designed to illustrate the fundamental methods and principles of Physics, and, although the work is necessarily more or less elementary, at the same time such accuracy and precision as the conditions admit of are insisted upon, so that the student is expected to acquire a fairly correct idea of modern experimental investigation. The exercises consist of the fundamental measurements of Length, Moss, Density, moduluses of Elasticity, pendulum experiments, etc., together with a few more advanced experiments in connection with the similar properties of Liquids and Gases, and the general phenomena of Heat and Sound. The student is required to write a careful report of such experiments, entering the results of observation in tabular form, and plotting a curve wherever practicable; also describing the object, apparatus, and method, and noting sources of errors, etc. Great stress is laid upon this requirement, and reports are not accepted unless they indicate that the student has done his best in every way. Four hours per week throughout entire year. (Text-book will be announced later.)

JUNIOR COURSE.

Lectures and recitations three hours a week throughout the entire session. This is a more advanced course in general physics required of all candidates for a degree. The only preparation needed is a good working knowledge of mathematics through plane trigonometry. The course includes a series of illustrated lectures on the principles of Dynamics, as applied to Solids, Liquids, Gases, Sound, and Heat, in the order named. Written exercises are required each week. (Text-book to be announced later.)

SENIOR COURSE.

Lectures and recitations two ours a week throughout the entire session. This course, although more advanced than the junior course, and occasionally employing the higher Mathematics, is a continuation of the work of the previous year. It might be called a course in Elementary Mathematical Physics, and the subjects, varying from year to year, that are treated in the lectures are such branches of Physics as Kinematics and Dynamics, Thermodynamics, Electricity and Magnetism, Geometrical and Physical Optics, etc. The student is encouraged to solve difficulties for himself, and to read the standard treatises and original memoirs on the various topics that come under discussion.

The last term of the session will generally be devoted to a brief course of lectures in *Descriptive Astronomy.*

The text-books in this class vary with the changing subjects and will be announced by the professor each year.

GRADUATE COURSE.

This course will be designed to meet the needs of the students who take it. It will include both theoretical and experimental work in more advanced Mathematical Physics, or in Analytical Mechanics.

MODERN LANGUAGES.

PROFESSOR WIATT.

The chief aim in this department is to give the student a thorough and accurate knowledge of the elementary principles of the subjects taught, and to enable him to read with facility the ordinary French and German at sight. To train the ear, acquire a correct pronunciation and some facility in speaking, all recitations are supplemented, as far as practicable, by oral exercises in the languages themselves.

The following regular courses are given in French and German:

French—First Year: Three recitations a week. During this year the principal object is to acquire a knowledge of the elements of grammar and a correct pronunciation, to gether with a facility in translating ordinary French. Reading is begun at an early stage, and the principles of grammar are illustrated and impressed by frequent exercises in rendering English into French.

Second Year: Three recitations a week. During this year almost the same line of work is pursued as that begun the previous year. More difficult and varied French is read, and instruction is given upon the laws of grammar, the construction of the language, and the history of the literature. Special attention is given to sight translation.

German—Two Years: Three recitations a week the first year, three a week the second year. In this course the aim and the methods are similar to those in French.

The students in this department will meet the professor twice a week, from 4 to 5 p. m., during the *first term* and the *third term*, for exercises in conversation in French and German.

TEXT-BOOKS.

FRENCH—*First Year*: Edgren's Grammar and Locard's Supplementary Exercises. Super's Reader.

Second Year: Corneille, Racine, Moliere, selected modern French plays, Duval's Histoire de la Litterature Francaise, Fraser and Squair's French Grammar, French Composition.

GERMAN—*First Year*: Joynes-Meissner's Grammar, Huss's German Reader.

Second Year: Schiller, Lessing, selected modern German plays, German Lyrics, Bernhardt's Deutsche Litteraturgeschichte, Whitney's German Grammar, Harris's German Composition.

GRADUATE COURSE.

This course is offered for the benefit of those students who wish to pursue the study of those subjects beyond the scope to which a two-year course necessarily limits them. Here, in addition to the authors studied in the lecture room, a wide and extensive reading of authors and literature is prescribed.

ELECTRICAL ENGINEERING.

PROFESSOR DUNSTAN.

ASSISTANT PROFESSOR HILL.

ASSISTANT RICHARDSON.

JUNIOR YEAR.

The instruction received by a student depends somewhat upon whether he is making a specialty of Electrical or of Mechanical Engineering.

For Electrical Engineering students:

First Term—Four hours per week are devoted to the study of the principles of electricity and magnetism, with especial reference to their industrial applications. The subject of electrical measurements is also treated at some length.

Second Term—Direct Current Machinery, four hours per week.

Third Term—(a) A short course of lectures upon the design of small D. C. Motors. Upon completion of the course students are required to submit a design with drawings of a motor to meet given specifications.

(b) Direct Current Power and Lighting Stations, Wiring, Insurance Rules, etc. Four hours per week.

For Mechanical Engineering students:

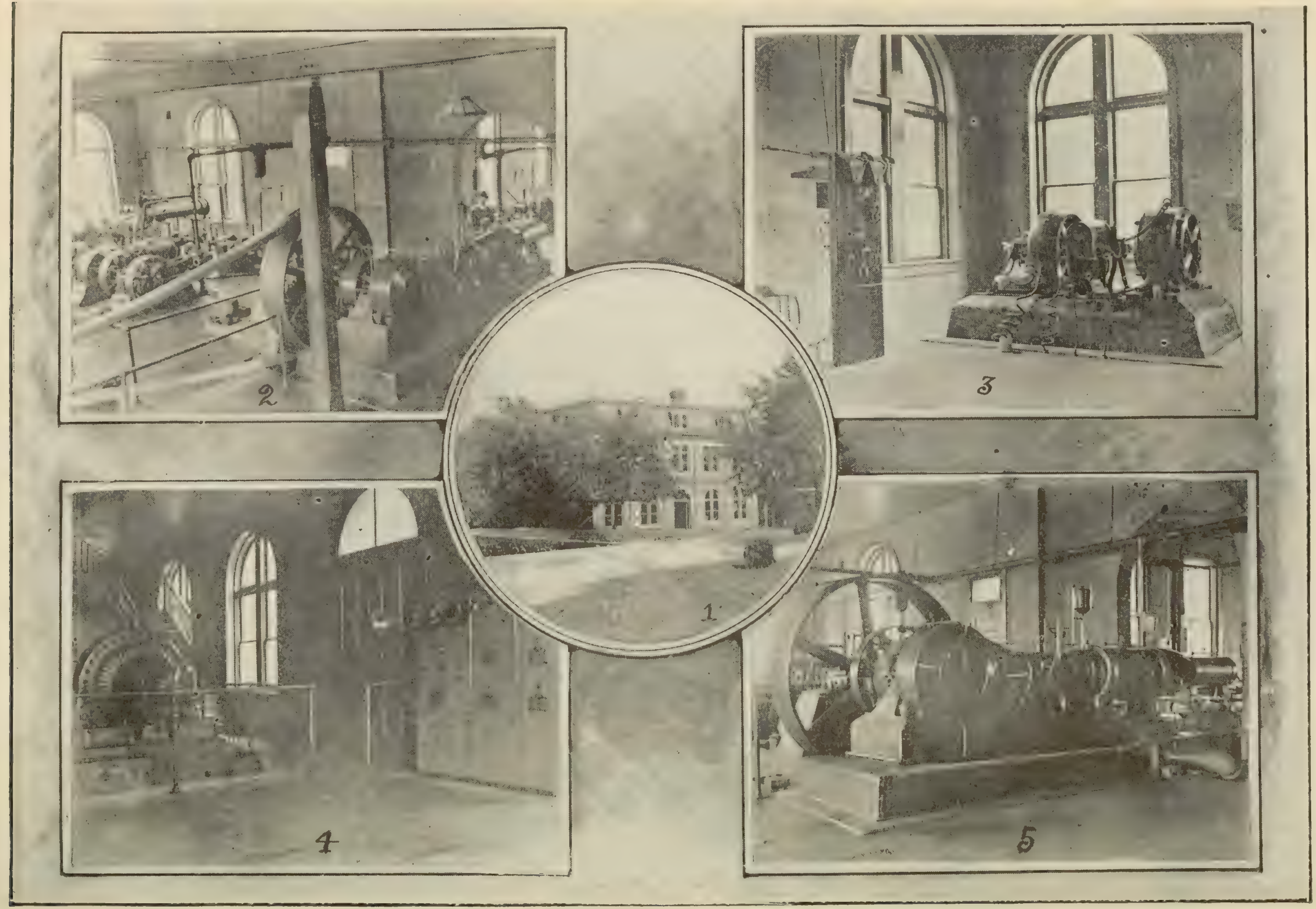
First Term—The work is the same as that for Electrical Engineering students.

Second Term—Incandescent Lighting, four hours per week.

Third Term—Arc Lighting and Wiring, four hours per week.

JUNIOR LABORATORY.

During the first term a considerable amount of experimental work in the measurement of resistances, currents, pressures, capacities, magnetic measurements, and the calibration of instruments is done. During the succeeding terms the wiring up and operation of dynamos, and motors is given. A part of the course is devoted to "trouble shooting," the instructor purposely making grounds, short circuits, and open circuits either on machines or lines, the student being expected to detect, locate, and remedy the trouble. Following this a considerable amount of work in brake and stray power tests is given. Four hours per week.



1. POWER HOUSE 2. INTERIOR OF POWER HOUSE 3. THE LIGHTING SET
4. GENERATOR AND SWITCH BOARD 5. ENGINE

SENIOR YEAR.

For Electrical Engineering students:

First Term—(a) A course of lectures upon the design of direct current generators. A design of a direct current generator to be submitted by students at the end of the course.

(b) Theory of Alternating Currents, five hours per week.

Second Term—Alternating Current Machinery, five hours per week.

--Third Term—Alternating Current Machinery, and Calculation of Power Transmission Circuits.

For Mechanical Engineering students:

First Term—Direct Current Machinery, two hours per week.

Second Term—Alternating Currents, two hours per week.

Third Term—Alternating Current Machinery, two hours per week.

LABORATORY WORK.

Four hours per week. Efficiency and regulation tests of transformers and alternators. Tests and operation of Synchronous and Induction Motors, and Rotary Converters.

TELEPHONE ENGINEERING.

Two hours per week are devoted to a careful study of the principles and practice of telephony. This course is given to Electrical Engineering seniors, and is accompanied with suitable laboratory work, in addition to the class room work just mentioned.

APPLICATIONS OF ELECTRICITY TO MINING.

Two hours per week for two terms of the senior year, a course of recitations and lectures on electricity with especial reference to mining is given to students taking the Mining Engineering Course.

CONTRACTS AND SPECIFICATIONS.

During the third term of the senior year a course in Contracts and Specifications is given to both Mechanical and Electrical Engineering students.

POST GRADUATE COURSE.

To graduate students more advanced courses of instruction are given, these courses being varied from year to year to meet the needs of those taking them. During the present year a course has been given in Alternating Current Machinery.

Encouragement is offered to advanced students for conducting original investigations and an opportunity is taken to stimulate a spirit of scientific enquiry. Courses of reading are suggested to such students in connection with their experimental work.

The rapid extension of the lighting and power service gives unusual opportunities for practical work in wiring and the installation of electrical machinery. Most of this work is done by students, and great benefit is derived by them from it.

MECHANICAL ENGINEERING.

PROFESSOR WILMORE.

INSTRUCTOR STOKES.

INSTRUCTOR THOMAS.

ASSISTANT MITCHELL.

ASSISTANT RICHARDSON.

The equipment of the shops and laboratories of the department is listed and described on pages nine and fourteen of this catalogue. Additional facilities for instruction may be mentioned as follows: suitable lecture and recitation rooms, one of which is fitted with a projection lantern and screen for showing enlarged illustrations of engineering appliances; a number of models of steam pumps, injectors, lubricators, valves, valve gears, steam engines, gasoline engines, and kinematic models. It is expected that very material additions will be made to the steam plant during the next year and that this apparatus will be available for instruction purposes before the end of the session. The nature of the work and the courses pursued are herewith set forth in detail.

FRESHMAN CLASS.

I. *Shop Work. Carpentry.*—Six hours per week for one term. Required of all members of the freshman class. The lessons include instruction in the nature and use of tools, instruction and practice in shop drawing, elementary work with the plane, saw and chisel, the construction of different kinds of joints, timber splices, cross joints, mortise and tenon, mitre and frame work, and dovetail work, comprising the different joints used in cabinet work, and examples of framing roof trusses. Students who have had previous experience in the use of tools or who show special proficiency, are given work of an advanced character.

II. *Shop Work. Wood Turning.*—Six hours per week for one term. Required of all members of the freshman class. The instruction includes the nature and use of the lathe and the tools, and the lessons comprise plain, straight turning, caliper work to different diameter and lengths, simple and compound curves, screw plate and chuck work, hollow and spherical turning.

III. *Shop Work. Pattern Making.*—Six hours per week for one term. Required of all members of the freshman class. The course includes work in whole and split patterns in wood for solid and cored castings, and core boxes for producing the necessary cores. The characteristics of the different kinds of timber used for patterns are studied, and attention called to allowances necessary for shrinkage and draft. The patterns are intended to be used by the students in their subsequent work in the foundry.

SOPHOMORE CLASS.

I. *Shop Work. Forging.*—Four hours per week for half the year. Required of all members of the sophomore class. A text book is used from which is learned something of the characteristics of the metals and the best methods of working them. The lessons are so arranged as to make the student familiar with the handling of the tools and the successive steps in working metals by hand. Exercises in drawing, upsetting and bending, cutting, punching, and welding by various methods, are given together with a course in steel forging, including hardening, tempering, and case hardening.

II. *Shop Work. Foundry.*—Four hours per week for half a year. Required of all sophomores except those taking Agriculture. The work for the most part consists of small articles, such as light machine parts and the stock pieces used for the exercise work in the machine shop. A sufficient variety is introduced for the student to acquire a good general knowledge of the usual methods and appliances used in light foundry work. Most of the work is in green sand in two part flasks, but some core work and more complicated work is introduced to illustrate the processes, as well as to furnish the castings for the advanced work in the machine shop. Instruction is given in operating the cupola, and from time to time lectures and recitations are held on the metallurgy and working of the metals used in the industrial arts.

JUNIOR CLASS.

I. *Elementary Mechanics.*—Three hours per week during the second term. Required of all juniors in the courses of Mechanical Engineering and Electrical Engineering. The fundamental laws of mechanical science are studied, while special attention is given to the practical applications of these principles to engineering work.

II. *Strength of Materials.*—Three hours per week during the third term. Required of all juniors in the course of Electrical Engineering. The general properties and characteristics of cast iron, wrought and steel, are studied, and an elementary treatment of the strength of these materials in the form of beams, girders, columns, and shafts is given. The text book work is supplemented by lectures and many practical problems are worked out.

III. *Heating and Ventilation.*—Three hours per week during the third term. Required of juniors in the course of Mechanical Engineering. The different methods of heating and ventilating buildings, are treated. A study is made of the relative efficiency of hot water, steam, and warm air, as mediums for heating different kinds of buildings, and special attention is given to the design and operation of healthful heating systems for residences.

IV. *Practical Mechanics.*—One hour per week during the year. Required of all juniors and special students who take machine shop work. The instruction consists of recitations and lectures on machine shop work. The construction, use and limitations of the various machine tools, the forms of cutting tools and methods of grinding them, and the form and use of jigs and gauges, are studied, together with instruction in machine management, and time and cost keeping.

V. *Shop Work.*—Six hours per week during the year. Required of juniors in the courses of Mechanical Engineering and Electrical Engineering. This work is divided into two parts:

(a) A course of chipping and filing. The lessons comprise work on cast and wrought iron, and consist in chipping to line on flat and curved surfaces, key seating, filing and finishing to line, surface filing, slotting, pin and screw filing, and surface finishing with scraper.

(b) A course in machine work. The materials worked include cast iron, wrought iron, steel, and brass. Exercises are given in turning to various diameters and lengths, taper turning, facing with chuck and face plate, drilling in the lathe and drill press, reaming, boring, screw cutting in lathe and with taps and dies. Practice is given in working the planer, shaper, and milling machine. In the last part of the year, some work in tool making is given, such as making taps, reamers, and milling cutters. Some sort of construction or repair work for the department is always on the shop floor, and students who are well advanced in their work have opportunity to gain additional practice and experience by assisting with this.

VI. *Shop Work.*—Four hours per week during the year. Required of juniors in the course of Mining Engineering and elective for juniors in the course of Civil Engineering. The work includes courses (a) and (b) as described in course V just preceeding, except the amount of work required is less in proportion to the time consumed.

All shop work is done from blue prints and blackboard sketches. For the preliminary exercise work, special instruction sheets are prepared and given out to each student with the stock for the exercise. These sheets explain in detail each step in the process of producing the exercise, and are intended to supplement the individual instruction of the instructor. In the construction work it is the purpose to select some simple machine and build two or more of them on the interchangeable system. Jigs and templates are built to accomplish this result as far as possible. A system of time keeping is in force in the shop. At the end of the week, each student makes out his time card, describing the work he has done during the week and giving the number of hours spent on each job.

SENIOR CLASS.

I. *Power Plant Engineering.*—Five hours per week for the first term. Required of seniors in the courses of Mechanical Engineering and Electrical Engineering. The work of this course consists in a study of the practical applications of steam machinery. It is believed that a thorough knowledge of the apparatus in actual practical use is the best preparation a student can have for a study of the theory, and to that end, the different types of engines, boilers, pumps, condensers, and other auxiliary apparatus are taken up and studied in detail, and the advantages of each are discussed. Extensive files of manufacturers' catalogues are kept,and the technical papers and magazines in the library are freely used in order to keep in touch with the latest and best practice in engineering work.

II. *Thermodynamics.*—Five hours per week for the second and third terms. Required of seniors in the courses in Mechanical Engineering and Electrical Engineering. The subject is first studied from the ideal standpoint, and later the applications are made to hot air engines, gas and gasoline engines, and steam engines, and also to air compressors and refrigerating machines. The temperature-entropy method of analysis is used in explaining heat transfers, and in general, graphical methods are used in preference to analytical ones when they can be made to serve the purpose equally well. Included in this course will be given instruction in indicator practice and the interpretation and working up indicator diagrams from steam engines, gas engines, air compressors, and refrigerating machines.

III. *Steam Boilers.*—Two hours per week for the first term. Required of seniors in the course of Mechanical Engineering. The different types of boilers with the conditions under which each is most efficient, are discussed. A special study is made of combustion and the design of settings to secure good combustion, and attention is given to corrosion, wear and tear, and the prevention of scale.

IV. *Gas Engines.*—Two hours per week for the second term. Required of seniors in the course of Mechanical Engineering. This is a descriptive course and gives attention to the construction and operation of gas engines and gas producers as used in the modern power plants. The rapid development of the gas engine in recent years warrants a more extended treatment of this subject than can be given in the usual course in thermodynamics, and the above is offered as supplementary thereto. The subject will be presented by lectures, student reports on current articles in technical publications, and by catalogues and drawings.

V. *Materials of Construction.*—Three hours per week for twenty weeks. Required of seniors in the course of Mechanical Engineering. Attention is given to the manufacture, the properties, and the uses of the materials which are employed in engineering construction. Iron, steel, cement, reinforced concrete, and wood are taken up in detail and studied with reference to their adaptability to different kinds of work. Many practical problems are solved, and illustrations of engineering structures are studied and discussed. Some work in the strength and design of structures will be given in connection with this course to give the student facility in the use of the laws and formulae studied.

VI. *Hydraulics.*—Three hours per week for sixteen weeks. Required of seniors in the course in Mechanical Engineering. In this course will be studied the fundamental laws of the flow of water and the application of these laws in the development of water power and the installation and operation of municipal water supply.

VII. *Laboratory.*—Four hours per week during the year. Required of seniors in the courses of Mechanical Engineering and Electrical Engineering. The laboratory is arranged as far as possible to bring the student into contact with engineering appliances under practical working conditions. Careful work and accurate and complete reports are insisted upon. The course includes the calibration of instruments, tests of engines, boilers, pumps, gasoline, and oil engines, together with the standard tests of the strength of the materials, iron, steel, wood, and cement.

POST GRADUATE WORK.

Considerable latitude is allowed in the selection of post graduate work, and the course is arranged each year to suit the requirements of the class. One of the following lines of work is recommended: Hydraulics, Thermodynamics, Heating and Ventilating, Reinforced Concrete Construction, or Power Plant Engineering. Laboratory work suitable to the course selected is offered.

TEXT-BOOKS.

Morley's Mechanics for Engineers, Merriman's Strength of Materials, Carpenter's Heating and Ventilating, Leonard's Machine Shop Practice, Spangler's Elements of Steam Engineering, Hutton's Heat and Heat Engines, Parson's Steam Boilers, Mathot's Gas Engines and Gas Producers, Johnson's Materials of Construction, Goodman's Mechanics Applied to Engineering.

MECHANICAL DRAWING AND MACHINE DESIGN.

ASSISTANT PROFESSOR FULLAN.

A large well lighted drawing room is supplied containing seventy-five modern, substantial drawing tables, with stools. Filing cases are provided in which are kept a large number of models illustrating the principles of Descriptive

Geometry; a large number of sectional models of valves, steam fittings, and small machine parts; an extensive and carefully indexed catalogue library; a small reference library; and a large collection of manufacturers' blue prints which are kept to illustrate methods of presentation, and general drawing room practice. There are also filing cases for keeping the drawings, tracings, and blue prints made by the students. A suitable outfit for making and washing blue prints is provided and the students are encouraged to make and keep blue prints of the designs they work out.

SOPHOMORE CLASS.

I. *Descriptive Geometry.*—Three hours per week during the year. Required of all sophomore students preparing for engineering courses. The work is given by lectures and drawing room instruction. In this course theory and practice are combined with the purpose of training the student in the graphical expression of ideas. The instruction includes problems relating to the point, line, and plane; to tangents and normals; to cylindrical, conical, and warped surfaces; to sections and intersections, and is intended to develop in the mind of the student a clear concept of magnitudes in space. The lectures, one hour per week, are intended to impart the principles of the subject and permit the instructor to meet the entire class and with diagrams and models supplement the work of the text. The drawing, two hours per week, consists of plates of problems, which are selected from the text book and other sources.

II. *Mechanical Drawing.*—Three hours per week during the year. Required of sophomores. This course is particularly recommended to those who wish to pursue the course in Machine Design. The work includes orthographic projection, sections and intersections, machine drawing, and free hand lettering. As a check on the work in sections and intersections, and to more fully illustrate the subject, paper models are made by the students.

JUNIOR CLASS.

I. *Kinematics of Machinery.*—Three hours per week during the first term. Required of juniors in the courses of Mechanical Engineering and Electrical Engineering. Under this head machines are analyzed and their elementary combinations of mechanism are studied. The communication of motion by gear wheels, belts, cams, screws, and link work, the different ways of obtaining definite velocity ratios and definite changes of velocity in machine parts, parallel motions and quick return motions, as well as the designing of trains of mechanism for various purposes, together with the theoretical forms of teeth for gear wheels to transmit motion of these trains, are investigated under this subject.

II. *Machine Design.*—Four hours per week during the year. Required of juniors in the courses of Electrical Engineering and Mechanical Engineering. Instruction is given in the conventional methods of representing standard materials, and in the design of fastenings and machine parts. Some of the work given is intended to supplement Course I in Kinematics. Scale drawings of simple machines are made from dimensioned sketches which each student makes for himself from an actual machine or model. Free hand lettering receives special attention, also tracing and blue printing. All the instruction is intended to familiarize the student with modern drawing office methods.

SENIOR CLASS.

I. *Machine Design. Lectures.*—One hour per week during the year. Required of seniors in the course of Mechanical Engineering. These lectures are intended to cover the general instruction to the students, such as the selection of the materials for different machine parts, the rules for proportion of parts to secure strength, symmetry, and cheapness of manufacture, and the best methods of making, recording and preserving notes and calculations incident to the design of a complete machine. Much valuable engineering data in the form of notes and tables will be given.

II. *Machine Design. Drawing.*—Six hours per week during the year. Required of seniors in the course of Mechanical Engineering. This is a continuation of the junior course of Machine Design. Original problems involving the design of complete machines to work under specified conditions, are assigned, and the student develops the idea in the form of sketches. These are submitted to the instructor for criticism, and are afterwards embodied in complete detail and assembled drawings. Special attention is given to the strength of the parts, to the harmonious or symmetrical appearance of the complete machine, and to the details as regards the practical manufacture.

III. *Machine Design. Drawing.*—Two hours per week during the year. Required of seniors in the course of Electrical Engineering. The work given and the methods pursued are similar to those described in Course II just preceeding, but the amount of work required is reduced in proportion to the amount of time given.

POST GRADUATE WORK.

The work offered during the post graduate year is an extension of that of the senior year. More of the theory of the subject is taught, more intricate machines are involved, and problems are given involving the design of a series of machines for manufacturing some specific article. The problems arising in the design of a line of machines of different sizes are also discussed including the applications of graphical and numerical-factors of enlargement. Special attention is called to the effect of current practice on the proportion of machine parts. Suitable text and reference books are used.

TEXT-BOOKS.

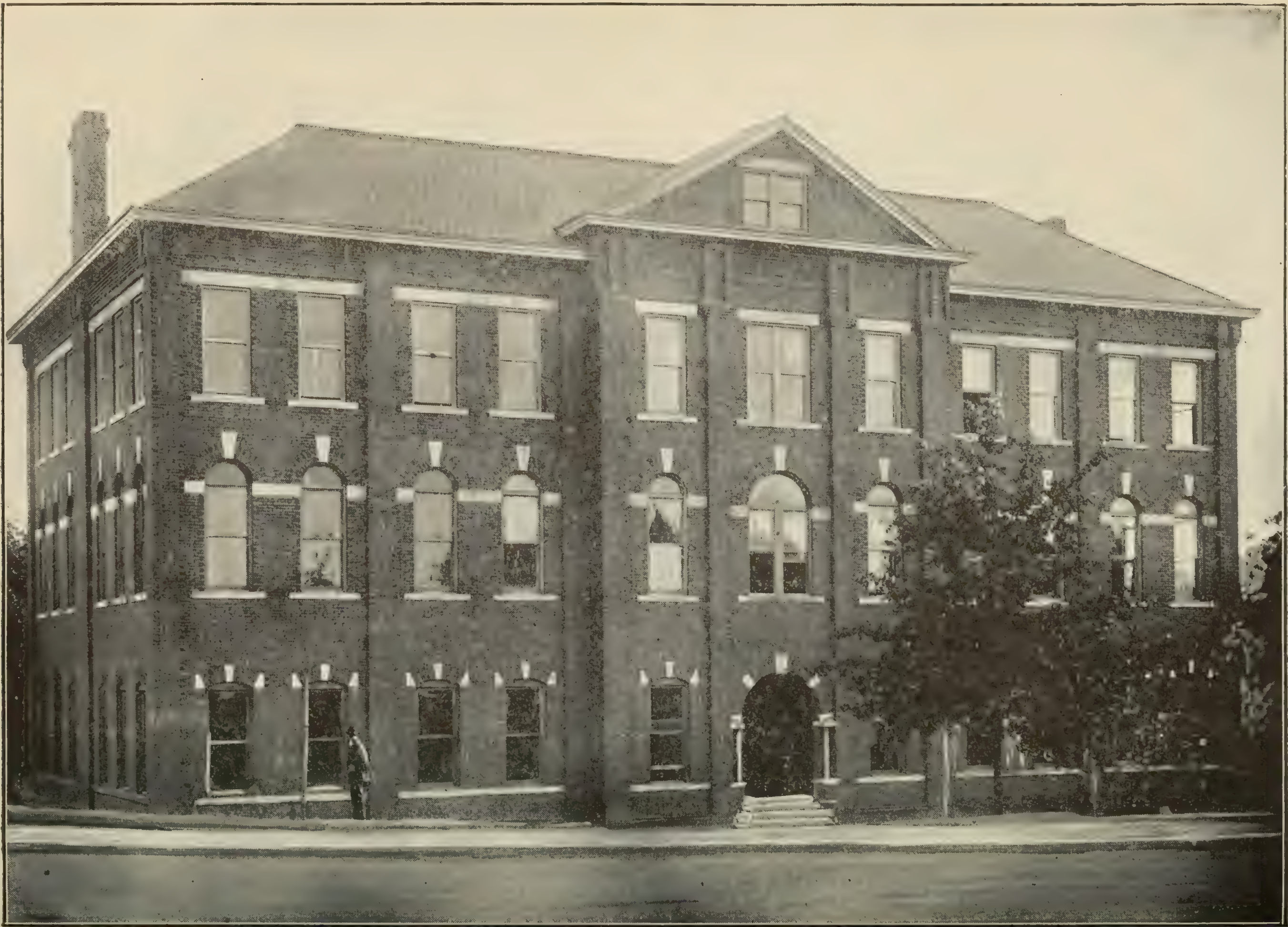
Faunce's Descriptive Geometry, Cross's Mechanical Drawing, Anthony's Machine Drawing, Reid's Mechanical Drawing and Elementary Machine Design, Low and Bevis's Machine Design, Barr's Kinematics of Machinery, and Mack's Notes on Machine Design.

GEOLOGY AND MINING ENGINEERING.

PROFESSOR MITCHAM.

General Geology.—This subject is studied by the students pursuing the courses in Chemistry and Agriculture, Chemistry and Metallurgy, Civil Engineering, Mining Engineering, and the General Course, and extends through the entire session. The subject is introduced by a course in Lithology, after which Dynamical, Structural, Physiographical, and Historical Geology are taken up and in the order named. Special attention is given to the Geology of Alabama. The lectures and recitations are supplemented by laboratory instruction and geological excursions. Textbooks, Scott's Introduction to Geology, Kemp's Handbook of Rocks.

Economic Geology.— Students in the junior class in Chemistry and Metallurgy devote two hours per week to lectures



ENGINEERING HALL.

and recitations in this subject. The course includes the study of modes of occurrence, distribution, origin, and uses of Coal, Petroleum, Natural Gas, and other Hydrocarbons, Building Stones, Clays, Limestones, Salines, Gypsum, Fertilizers, Abrasives, Minor Non-Metallic Minerals, Mineral Waters, Ores of Iron, Copper, Lead and Zinc, Gold and Silver, Silver-Lead, Aluminum, Manganese, Mercury, and the Minor Metals.

Text-book, Ries's Economic Geology of United States.

Mineralogy.—Students of the junior class in the courses of Civil Engineering, Mining Engineering, and Chemistry and Metallurgy during the first semi-term devote two hours a week to study of Crystallography and two hours to laboratory work in Mineralogy. Four hours a week during the remainder of the session is devoted to work in Determinative Mineralogy. The work includes measurement of crystal angles and determination of system of crystallization, determining physical properties, blowpiping, and determination of unknown minerals. A good mineral collection is kept in laboratory for comparison after determinations are made. An effort is made to have the student become familiar with economically important ores and non-metallic minerals and the common rock forming minerals, so that he can identify them by sight or by applying a few simple tests in the field. Text and reference books: Moses and Parsons' Mineralogy, Crosby's Tables, and Dana's Manual of Mineralogy.

Mining Engineering.—The special studies of this course begin with the first term in the junior class, and require a knowledge of algebra, geometry, and trigonometry. Special students who have not completed these subjects can not pursue this course satisfactorily. The course begins with higher surveying, the first series of lectures being on the theory, use, and care of the various instruments used by surveyors and engineers in surveying and mapping, and includes levelling, topographical surveying, railway surveying, mine surveying, and mapping. The work in surveying is especially designed to meet the needs of the engineer connected with mining enterprises, and special attention is given to mine surveying. Field work is given in connection with the course in surveying, and the student is required to work out practical problems that he will probably meet with in the practice of his profession.

A brief course in the mechanics of materials follows the work in surveying, being concluded at the end of the second term.

The mode of occurrence and origin of the various ores and economically valuable mineral deposits is next studied, and instruction is given in prospecting and examination of mineral properties, including boring by different methods. The principles of mining are next studied in detail, including: methods of opening up mineral deposits, breaking ground, supporting excavations, methods of developing and working coal and metalliferous deposits, haulage, hoisting, drainage, ventilation, lighting, provisions for ascent and descent, installation of power plant and machinery, principles of employment of labor, legislation affecting mines and quarries, and causes and prevention of accidents.

A course in ore dressing and milling and arrangement of surface plant to handle and dispose of mine products completes the two year course in mining.

TEXT AND REFERENCE BOOKS.

Johnson's Surveying, Henck's Field Book, Coal and Metal Miners' Pocket Book, Manuscript Notes, Merriman's Strength of Materials, Foster's Ore and Stone Mining, International Text Books on Mining and Ore Dressing.

EXCURSIONS.

An excursion to the mines of Alabama and neighboring states will be arranged for each year in order that the student may get a clearer idea of mining operations by personal observation.

DRAWING.

The junior class in Mining Engineering pursues a course in drafting, including free-hand lettering, mapping, and making detailed drawings to scale of various structures and machines related to mining. The senior class students work up original plans for various parts of mining plants, a part of the work being in connection with their theses.

GRADUATE COURSE.

This course is offered for the benefit of those who desire to pursue the subjects related to mining beyond the scope to which the two year course necessarily limits them. The course will be arranged to meet the requirements of those desiring to take it.

AGRICULTURE.

PROFESSOR DUGGAR.

ASSISTANT PROFESSOR GRAY.

INSTRUCTOR DUNCAN.

Six terms are devoted to soils, crops and other portions of the subject of general agriculture and six terms to animal industry.

Instruction in agriculture is given by means of lectures, text-books, bulletins of the agricultural experiment stations, and practical work in field, barn, and dairy.

The study of agriculture begins with the freshman class in the third term, and occupies three terms of the sophomore year, two terms of the junior year, and three terms of the senior year.

The time devoted to this study in the lecture room is two hours per week with each class, in addition to two or four hours of laboratory work per week in barn, field, dairy, or library.

To the freshman class is given a brief introductory course in elementary agriculture and in breeds of live stock.

The first term of the sophomore year is devoted to dairying, which is taught by practical work in the dairy—butter making, determination of fat in milk by the Babcock method, etc.,—as well as by instruction in the lecture room.

In the second term of the sophomore year the following subjects are studied: Soils—chemical and physical properties, defects, and means of improvement; characteristics of the principal soils of Alabama and the special adaptability of each to particular crops; terracing; objects and methods of preparation and cultivation of the soil; fertilizers; and the renovation of poor soils. Practical work in judging the principal breeds of beef and dairy cattle, hogs, mules, and sheep occupies four hours per week throughout the term.

During the third term the student studies the grasses, leguminous, and other forage plants adapted to the different soils of this State. Instruction in the choice of suitable plants, recognition of the most important forage plants and of their seeds, preparation of meadows and pastures, and principles and practice of hay-making, is given by lectures, by field work and by observation of experiments.

In the junior year the topics of the first term are corn, oats, wheat, rye, and barley. These crops are treated with reference to varieties, soil and fertilizer requirements, methods of planting and cultivation and uses. Plant breeding, with the special aim of effecting improvement in existing varieties of cotton, corn, and cowpeas, by means of systematic selection and crossing, will be taught both in the lecture room and in the field. Students assist in harvesting and make observations and notes on the large collections of varieties of cotton, corn, cowpeas, etc., grown on the Experiment Station Farm.

During the second term the topic is the feeding of animals and the compounding of rations. An advanced course in stock judging is given as the laboratory work of this term. The seniors devote the first term to an extended study of cotton in the field and in the class room; the second term to special crops, such as sugar cane, tobacco, rice, sweet potatoes, etc., and the third term to farm management, including different systems of farming and stock growing, rotation of crops, care of farm manures, choice and methods of applying commercial fertilizers for different soils and crops, markets and results of experiments. During the third term a more extended study of soils is made than was possible in the sophomore class.

All seniors in the agricultural course receive instruction during the first and second terms in animal industry, including animal breeding and tracing of pedigrees. As far as limited time allows, attention is directed to agricultural literature now accumulating so rapidly in this and foreign countries, to the end that in future years the student may know where and how to seek the information that he may need.

Applicants for post-graduate work in general agriculture or in animal industry will be assigned special research work and aided in the line of investigation deemed best for each individual student.

The specimens of live stock brought together for the special purpose of students' use in the study of breeds and in practice in judging animals consist of representatives of Angus, Short-horn, Hereford, and Jersey cattle; Berkshire and Poland China hogs; and Southdown, Shropshire, common and graded sheep.

TEXT AND REFERENCE BOOKS.

Horses, Cattle, Sheep, and Swine, by Curtis; The Study of Breeds, by Shaw; Sheep, by Wrightson; The Domestic Sheep, by Stewart; Milk and Its Products, by Wing; Milk Testing, by Farrington & Woll; Soils and Crops on the Farm, Morrow & Hunt; Forage Plants, by Shaw; Soiling Crops and the Silo, by Shaw; The Fertility of the Soil, by Roberts; Corn Culture, by Plumb; Soils, by Fletcher; Irrigation and Drainage, by King; Irrigation Farming, by Wilcox; Physics of Agriculture, by King; Manures and the Principles of Manuring, by Aikman; Drainage for Profit and Health, by Waring; Agriculture in Some of Its Relations with

Chemistry, by Storer; Farm Management, by Card; The Feeding of Animals, by Jordan; Feeds and Feeding, by Henry; Animal Breeding, by Shaw; Hand-book of Experiment Station Work; and selected publications of the various divisions of the U. S. Department of Agriculture, and of the Agricultural Experiment Stations.

TWO-YEAR COURSE IN AGRICULTURE.

All persons interested in agriculture are advised to take the full four-year course, which besides offering a well rounded general education should fit them for farming or stock raising, or for special work in agricultural journalism, or for positions in the experiment station and colleges and in the National Department of Agriculture.

However, those who are able to spend only two years at college may take the two-year course in agriculture and thus devote practically all of their time to agriculture and the closely related branches of study. In the two-year course the studies are so arranged that the nine courses in general agriculture and animal industry, together with work in other departments of applied science, may be completed during two sessions.

BOTANY.

PROFESSOR WILCOX.

ASSISTANT LETT.

1. *Elementary Botany.* This course offers a general introduction to the science of botany and is therefore a prerequisite of all other courses in botany. The general principles of morphology and classification will be developed from the standpoint of physiology and ecology. In the laboratory the student will become acquainted with the general morphology and physiology of the spermatophytes and of some of the most important facts of ecology.

Lectures and Recitations.—Three hours per week during the spring term of the sophomore year.

Laboratory Work. Four hours per week.

2. *General Morphology.* This course will be devoted to the study in the laboratory of carefully selected representatives of the principal groups of plants. The lectures and recitations will supplement the laboratory work and fill up such gaps in the students' knowledge as are incident to the study of isolated types. In all cases where possible special attention will be devoted to plants of economic importance, in either agriculture or medicine.

Lectures and Recitations. Two hours per week during the fall and winter terms.

Laboratory Work. Four hours per week for students in the long and short courses in pharmacy, but only two hours for other students.

3. *Comparative Anatomy of the Spermatophytes.* A thorough study of the structure and activities of the plant cell will be followed by an examination of the typical tissues with special reference to their function. Students are required to become acquainted with the general methods of botanical microtechnique, including the killing, fixing, imbedding, sectioning, staining, mounting,and drawing of all the tissues examined. Students in pharmacy will devote special attention to the study of the structure of plants employed in medicine while other students will give more attention to those matters that will be of the greatest value to them in the subsequent courses in the subject.

Lectures and Recitations. Two hours per week during the spring term.

Laboratory Work. Four hours per week for students in the pharmacy courses, but only two hours for other students.

4. *Phytophysiology.* This is a course of carefully selected experiments, to be performed by each student, supplemented by selected readings, conferences and lectures upon certain subjects. It will be the aim of this course to develop a good, general knowledge of the most important

functions of seed-plants, such as absorption, photosynthetic assimilation of carbon-dioxide, transpiration, respiration, etc.

Lectures and Recitations. Two hours per week during the fall and winter terms of the senior year.

Laboratory Work. Four hours per week.

5. *Phytopathology.* The aim of this course is to present a broad and comprehensive view of the subject. A thorough study will be made of the principal diseases due to parasitic fungi, but not to the exclusion of diseases produced by unfavorable surroundings and various inorganic factors.

Lectures and Recitations. Two hours per week during the spring term of the senior year.

Laboratory Work. Four hours per week.

6. *Botanical Seminar.* It is expected that meetings will be held twice per month at which the results of the latest researches in various languages will be presented and informally discussed. The seminar will be open to all juniors, seniors, and post graduates taking work in this department and the meetings will be held at some time convenient to all who wish to take part.

7. Research and Thesis Work.--The following lines of work are open to the students during this year:

(1) Comparative embryology of spermatophytes.
(2) Ecology and ecological anatomy.
(3) Physiology and morphogenesis.
(4) Advanced plant physiology.
(5) Advanced cytology.
(6) Forestry or plant culture.
(7) Plant breeding or biometry.

It is expected that seniors who do their thesis work in this department will select a subject in one of these groups, and that the result of the research will be presented as a thesis for publication.

VETERINARY LABORATORY

PHYSIOLOGY AND VETERINARY SCIENCE.

PROFESSOR CARY.

INSTRUCTOR GILTNER.

ASSISTANT BUTLER.

The sophomore class studies human anatomy, physiology, and hygiene during the entire college year.

It is the aim of the department to give the students practical and real knowledge of the gross anatomy and functions of the various parts of the human body. Due attention is given, also, to the laws of health—the conditions most favorable to a continuous healthy action of the organs of the human body.

Instruction is given by lectures and by text-books supplemented by blackboard drawings, charts, models of organs, a human skeleton, and by dissections of some of the smaller animals (dog, cat, etc.)

Hough and Sedgwick's Physiology is used as a text and reference book, and several other books on anatomy, physiology and hygiene may be consulted in the college library.

VETERINARY SCIENCE AND ART.

Students in the agricultural and chemical course of study, during the entire junior and senior years, devote to this work two hours per week in the class room and three hours per week at practical clinics. Instruction in veterinary science and art is given by lectures.

The lectures are arranged with special reference to the students who are interested in horses or other domestic animals; also to those students who contemplate studying human or veterinary medicine. While it is not the aim to give a complete course in veterinary medicine, we attempt to present the general principles of comparative medicine with such special applications as are adapted to the conditions and wants of the students.

Special attention is given to the exterior anatomy of the horse, while comparative anatomy is presented mainly in connection with the study of the diseases of the different apparatus of the horse or other domestic animals.

Special students in this department study comparative anatomy three to five hours per week in class work, and have practical dissection from six to fifteen hours per week during the entire year. Lameness in the horse, minor surgery, the actions and uses of the most common medicines, the principles and practices of comparative medicines, and the ways of protecting the health of domestic animals, are considered in as plain and practical a manner as the time alloted to each subject will permit. Post-mortem examination and the dissection of domestic animals are used as object lessons in the study of general pathology and anatomy.

To the postgraduate student this department furnishes work in histology, pathology, bacteriology, meat and milk inspection. This work gives students who contemplate studying medicine excellent preparatory work along that line. Such students may devote one-half their time to work in this department with the approval of the Faculty.

Histology includes methods of injecting small animals, collecting, fixing, hardening, imbedding, section cutting, mounting, staining, examining under the microscope, drawing, and describing the different tissues.

Pathology is studied in text and reference books and morbid histology embraces naked eye and microscopical examinations of diseased tissues in the laboratory. Quite a collection of diseased tissues and animal parasites is found in connection with the laboratory.

The laboratory is well fitted for the study of bacteriology. Bacteriological analysis of water, milk, sputum, pus, diseased tissues, and of soils can be made. All of the practical operations in the preparation of culture, media, sterilization, inoculations of small animals, staining, microscopical examinations, may be learned. In the laboratory are seven Bausch & Lomb and two Winkel microscopes, each of which is supplied with oil immersion objectives, two oculars, Abbe condenser, and iris diaphragm. Sterilizers, autoclaves, incubators, and all the necessary apparatus required in bacteriological work are to be found in the laboratory.

The department of physiology and veterinary science is located by itself in a two-story building, which contains five laboratory rooms on the second floor and a lecture room, museum, office, and operating room on the lower floor.

The building is supplied with water and gas and the laboratory is now equipped for work. The museum contains the skeletons of the horse, the ox, the sheep, and the hog, and a human skeleton. It also contains anatomical models of the various parts and organs of the human body, and models of many parts of the horse, the ox and the other domestic animals. It also contains a collection of pathological and anatomical specimens, and one of animal parasites.

The veterinary hospital building contains five large box-stalls, four open single stalls, an office, and a feed room on the lower floor, the upper floor being used as a storage room for hay, fodder, etc. The hospital is supplied with fresh water.

This department has a brick cement dissecting room (16x32). It is supplied with an extensive north skylight, and with water and gas.

Every Saturday during the college year the department conducts a free clinic for the benefit of the students in veterinary science and art. Clinical cases have been various and numerous, giving the students opportunity to see and study many diseases and lameness and to become proficient in minor operations.

Students who complete the course in this department will receive full credit in veterinary medical colleges.

BACTERIOLOGY AND THERAPEUTICS.

The senior class in pharmacy devotes six hours per week during the first and second terms to class room and laboratory work in bacteriology; and four hours per week during the third term to therapeutics.

PHARMACY, PHARMACOGNOSY, AND PRESCRIPTION WORK.

PROFESSOR MILLER.

JUNIOR YEAR .

Pharmacy—Class work, *three hours* a week. The different systems of weights and measures. Specific gravity. Pharmaceutical problems. The fundamental operations in pharmacy. Apparatus used in pharmaceutical processes. Discussion of all classes of pharmaceutical preparations.

Laboratory, *nine hours* a week. Preparation of official and non-official galenicals.

Pharmacognosy—Class work with laboratory work, *four* *hours* a week. All official vegetable drugs studied with aid of simple and compound microscope.

SENIOR YEAR.

Pharmacy.—Class work, *five hours* a week. Official and nonofficial pharmaceutical chemicals, inorganic and organic, including the more important newer remedies.

Laboratory, nineteen hours a week. Preparation of official and non-official pharmaceuticals, inorganic and organic, chemicals. Pharmaceutical testing by pharmacopœial methods. Drug assaying. Practical exercises in identification of pharmaceutical preparations and chemicals.

Art of Dispensing.—The prescription. The study of several hundred original prescriptions from drug-store files. Incompatibilities. Doses.

Pharmacognosy.—Class work with laboratory work, four hours a week. The study of all official crude drugs and the more important non-official ones.

The practical work in pharmacy includes the manufacture of not less than three hundred pharmaceutical preparations and the compounding of not less than fifty prescriptions.

The work in pharmacognosy includes the study of more than 300 drugs, each of which the student is required to recognize by its physical and chemical properties, giving Latin name, common name, origin, habitat, constituents, medicinal action, and dose.

The work of the third year in the special course in Pharmacy embraces:

1. An advanced course in the manufacture of Galenicals and Organic and Inorganic Chemicals used in medicine. 2. A course in the testing of drugs and medicinal chemicals for impurities by Pharmacopœial methods. 3. A course in Pharmaceutical Assaying, including the assay of alkaloidal drugs, glucosidal drugs, resinous drugs, the valuation of fixed and volatile oils, pepsin, diastase, etc. 4. A course in Water Analysis. 5. A course in Milk and Butter Analysis. 6. A course in Physiological Chemistry. 7. A course in Organic Preparations. 8. An advanced course in Toxicological Analysis. 9. The presentation of a satisfactory Thesis.

Any one who completes the work of the three-year special course in such a manner as to prove himself a competent analyst will be granted the degree of Pharmaceutical Chemist.

The Pharmacy Department of this institution is a member in good standing of the American Conference of Pharmaceutical Faculties.

TEXT AND REFERENCE BOOKS.

Caspari's Treatise on Pharmacy, Sayre's Organic Materia Medica and Pharmacognosy, Culbreth's Materia Medica and Pharmacognosy, Scoville's The Art of Compounding, Reddiman's Incompatibilities in Prescriptions, Lyon's Pharmaceutical Assaying, United States Pharmacopœia, United States Dispensatory, National Dispensatory, National-Standard Dispensatory, King's American Dispensatory, Prescott's Organic Analysis, Allen's Commercial Organic Analysis, Pharmaceutical Journals, Reports of American Pharmaceutical Association.

HORTICULTURE.

PROFESSOR MACKINTOSH

ASSISTANT KINMAN

Instruction in this department consists of lectures, recitations, and exercises in the greenhouse laboratory, orchards, and gardens of the Experiment Station. It is the aim to give a thorough course in the practical and scientific phases of the growing of our economic fruit, vegetable, and ornamental plants. Students in the agricultural course spend six hours in the junior year and three hours in the senior year in this department each week, during the second and third terms. In addition to the text-books required, various State and Government bulletins are used as references.

Junior Year.—Recitations two hours and laboratory work four hours a week. During this year the principles which underlie the science of horticulture are considered in detail. The laboratory work consists of testing seeds, propagation of plants by seeds, cuttings, grafting, transplanting, pruning and spraying.

TEXT BOOKS.

Principles of Plant Culture, and Principles of Fruit Growing by E. S. Goff.

Senior Year.—Recitations and lectures three hours a week. Vegetable or truck gardening. Each special vegetable is considered in detail, as well as, the packing and marketing of each. Landscape gardening. The improvement of home and school grounds and a study of the various shrubs, trees or other plants which may be used for ornamental purposes.

TEXT BOOKS.

Vegetable Gardening by S. B. Green. Landscape Gardening, by F. A. Waugh.

ENTOMOLOGY.

PROFESSOR CLARKE.

During the first term of the senior year instruction is given in the anatomy, ecology, and classification of insects. Especial attention is drawn to the insects of economic importance and to the methods used for their control.

The class work consists of lectures and assigned readings of the current entomological literature. The laboratory work consists of regular exercises in the anatomy and classification of insects and in the working out, in the field, of definite problems in the matter of insect life and injury.

Every opportunity will be offered the student who may desire to go more deeply into the subject, to carry the work still further. Special arrangements as to hours may be made to cover this phase of the work offered.

MILITARY SCIENCE AND TACTICS.

COL. B. S. PATRICK, COMMANDANT.

Military science and tactics are required by law to be taught at this institution. The law is faithfully carried out by imparting to each student, not physically incapacitated to bear arms, practical instruction in the school of the soldier, of the company, and of the battalion in close and extended order, also in guard mountings, inspections, dress parades, reviews, etc.

Under Section 1225, U. S. Revised Statutes, the college is provided with modern cadet rifles and accoutrements.

The following uniform of standard cadet gray cloth has been prescribed for dress: Coat and trousers as worn for fatigue at West Point, with dark blue cadet cap. A neat and serviceable uniform can be obtained here at $14 to $15. This is less expensive than the usual clothing. All students are required to wear this uniform during the session.

The entire body of students is divided into companies. The officers are selected for military efficiency, good conduct and scholarship. The commissioned officers will be selected from either the senior or the junior class, and promotion will depend on merit and not wholly on seniority.

A band, composed of cadets, furnishes appropriate music at all reviews and parades, and on other special occasions.

A student who has once accepted an office cannot resign it except for reasons entirely satisfactory to the President and the Commandant. The resignation of an office will usually not be considered without first placing all the circumstances of the case before his parent or guardian.

Candidates for appointment or promotion may be required to stand an examination. Moral fitness, including demerits, will be considered.

Each company is officered by one captain and two first lieutenants, one second lieutenant, and with a proper number of non-commissioned officers. The officers and non-commissioned officers are distinguished by appropriate insignia of rank. These appointments are confirmed by the President on nomination of the Commandant.

The junior class recites once a week in the United States Infantry Drill Regulations.

The senior class recites once a week in Wagner's Security and Information, and Manual of Guard Duty, U. S. Army.

On the graduation of each class the names of such students as have shown special aptitude for military service will be reported to the Adjutant-General of the U. S. Army, and the names of the three most distinguished in military science and tactics will be inserted in the U. S. Army Register, and published in general orders from headquarters of the army.

CADET BAND.

The cadet band is a part of the military organization of the college. It takes part in the military and other exercises, and plays when its services are required.

Regular and individual instruction is given free of charge by the bandmaster. A text-book on general musical information is used in connection with the practical instruction.

A gold medal is given each year by the bandmaster to the member of the band who makes the best general record for the year. The presentation is made at Commencement.

MISCELLANEOUS.

GYMNASIUM AND ATHLETIC FIELD.

The gysnasium is situated at the west end of the athletic and drill grounds, and contains one room, 80x40 feet, with strong beams above for fastening the usual fixtures.

It is equipped with Spalding's gymnasium apparatus and is open to all students at stated hours, under the care of an officer.

The athletic field has a quarter-mile cinder track and ample space for football, baseball, and general athletics.

DRAKE ATHLETIC FIELD.

A new athletic field, named in honor of the Surgeon of the College, Dr. J. H. Drake, has been provided for baseball, football, and track athletics. It is situated on the Experiment Station grounds near the gymnasium. It will be gradually beautified and equipped with necessary buildings and accommodations.

DISCIPLINE REGULATIONS.

The government of the college is administered by the President and Faculty in accordance with the code of laws and regulations enacted by the Trustees.

Each student upon entering is required to sign his name in the matriculation book and pledge himself to obey the rules and regulations of the college.

All students are required to wear the prescribed uniform.

Attention to study and punctuality in attendance on recitations and all other duties, are required of every student. Students are prohibited from having in their possession arms or weapons not issued for the performance of military duty, and also from using or causing to be brought into the college limits, intoxicating liquors.

Students are not permitted to participate in any public entertainment, or game, without previously obtaining the consent of the Faculty.

No student will be permitted without the approval of his parent or guardian, to take part in a public game of football.

No student who has failed in two or more subjects will be permitted to be absent from college for athletic contests or other purposes.

(a) Every absence from recitation or examination is graded zero.

(b) When the grade of a student is lowered by reason of absence for which satisfactory excuse can be rendered, a special re-examinatian may be subsequently granted, and the grade made on the special re-examination alone is substituted for that previously received.

(c) Only sickness, as reported by the Surgeon, or absence by reason of family sickness, or official or collegiate business, will constitute a satisfactory excuse for granting a re-examination.

When a student is called away from college by his parents for reasons other than those specified above, his zeroes for absence are not removed.

The term grade of a student is the average of his daily sessional and term examination marks, found by giving due weight to the term examination.

Privates of the senior class in full standing who are candidates for graduation may be excused by the President from all military drills, and also students over twenty-one years of age at *the time of entering College* that are permitted to devote their time to one special study, as chemistry, agriculture, pharmacy, or engineering, provided the time devoted to drill is spent by them in laboratory work.

No student can remain an officer who receives during the session more than seventy-five demerits.

BOARDING.

The Institute has no barracks or dormitories, and the students board with families of the town of Auburn, and thus enjoy all the protecting and beneficial influences of the family circle.

For each house an inspector is appointed, whose duty it is to report those who are guilty of any violation of order. The report of the inspector is made to the Commandant at stated intervals.

Students, after selecting their boarding houses, are not permitted to make changes without obtaining permission from the President, and this permission is given only at the close of a term, except for special reasons approved by the parent.

MILITARY DRILL.

There are three regular military drills each week, and all undergraduate students, not physically incapacitated to bear arms, are required to engage in these exercises; privates of the senior class are exempt.

The drills are short and the duty involves no hardships. The military drill is a health-giving exercise, and its good effects in the development of the *physique* and improvement of the carriage of the cadet are manifest.

RELIGIOUS SERVICES.

Religious services are held every morning in the chapel.

All students, unless excused on the written request of parents for religious scruples, are required to attend these exercises, and also to attend the church of their choice at least once on Sunday.

Opportunities are also offered for attending Bible classes every Sunday.

YOUNG MEN'S CHRISTIAN ASSOCIATION.

This association is regularly organized and has a well furnished room on the first floor of a building set apart for its exclusive use. Through its weekly meetings it exerts a wholesome Christian influence among the students .

Students are advised to unite with the association when they enter the Institute.

The ladies of the different churches in Auburn are organized into an auxiliary association to the Y. M. C. A. of this Institute. Assisted by members of the Faculty, they will hold monthly a joint service of praise in the college chapel, and will provide lectures for the occasion.

They have also undertaken to build a special hall for the use of the Association, and will solicit subscriptions for that purpose.

The following are the officers of the association:

William Lewis Perdue	President
Charles Mell Hudson	Vice-President
James Lister Skinner	Treasurer
Clyde McNeel Howard	Recording Secretary
Samuel Oliver White	Librarian

DISTINCTIONS.

Distinctions are awarded in the different subjects of each class to those students whose grade for the entire year is above ninety per cent.

Certificates of distinction are awarded in public on Commencement day to those who obtain an average of ninety per cent. in all the prescribed studies of a regular class; and also to those who obtain three distinctions in the freshman class, four in the sophomore class, five in the junior class, and six in the senior class; provided they have satisfactorily passed all the regular examinations of that session, and have not received forty demerits during the year.

A distinction is not given in the senior class if the average grade in any one subject is less than 75 per cent.

HONORS.

Members of the senior class who attain distinction at the final examinations with an average grade, in the subjects required, of 95 per cent. are published as

GRADUATES WITH HIGHEST HONOR.

Those who attain distinction with an average grade of 90 per cent. and less than 95, are published as

Graduates with Honor.

Those who attain less than 90 per cent. and more than 60 per cent. are published as *Graduates*.

Students of the classes lower than the senior, who attain distinction with an average grade in the required subjects of 95 per cent. are published in alphabetical order as having attained the *Highest Distinction.*

RECORDS AND CIRCULARS.

Daily records of the various exercises of the classes are kept by the officers of instruction.

At the close of each term and at regular intervals reports giving the grade made by each student are sent to the parent or guardian.

EXAMINATIONS.

Written examinations on the studies of the half-term are held by each professor during the months of October, February, and April. Each examination occupies one hour.

At the end of each term written examinations or written and oral, are held on the studies passed over during that term.

Special examinations are held only by order of the Faculty, and in no case will private examinations be permitted.

Students falling below the minimum grade at the final examinations, can be promoted to full standing in the next higher class only on satisfactory examinations at the opening of the next session.

It is required that every student who enters the College shall remain through the examinations at the end of the term. Leaves of absence and honorable discharges will, therefore, not be granted within three weeks of the examination, except for providential reasons.

SCHOLARSHIPS—PRIZES.

The following scholarships and prizes have been established:

THE WILLIAM LEROY BROUN MEMORIAL SCHOLARSHIP OF $170, established by the Alumni Society in memory of the late distinguished President of the Institute.

THE LIGON SCHOLARSHIP OF $170, established by Col. R. F. Ligon, Montgomery, Ala.

THE THOMAS SCHOLARSHIP OF $170, established by Judge William H. Thomas, Montgomery, Ala.

THE BALL SCHOLARSHIP OF $170, established by Mr. Fred S. Ball, Montgomery, Ala.

THE DUNKLIN SCHOLARSHIP OF $600, established by Mr. and Mrs. J. C. Street, Anniston, Ala., in memory of Prof. J. T. Dunklin, formerly Professor of Latin in the Institute.

The scholarships enumerated above are loan scholarships, granted to worthy young men or women, to be returned after graduation. No interest is charged until one year after leaving college.

The above-named scholarships and ten other scholarships are administered by the Alumni Society For information address R. D. Webb, Secretary.

THE ORATORICAL PRIZE, medal to that member of the junior class who composed and delivers the best oration on Junior Class day of Commencement.

1906, *N. B. McLeod,* Clarke County.

THE ORATORICAL PRIZE, for the Annual Inter-Literary Society Contest, February 22d.

1907, *R. G. Adams,* Clarke County.

SOPHOMORE MEDAL IN DECLAMATION for annual contest, May 1st.

1906, *Grover Cleveland Walker,* Coosa County.

PRIZE FOR BEST DEBATER, a medal given annually by the Board of Trustees to the best debater in the Wirt and Websterian Literary Societies each.

THE THOMAS ESSAY PRIZE, a gold medal offered by Judge William H. Thomas, of Montgomery, Ala., for the best written essay by any undergraduate student of the college. This essay must be written under the supervision of the department of English.

1906, *E. T. Collier,* Montgomery County.

BATTALION MEDAL for best drilled soldier.

1906, *W. M. Lacey,* Jefferson County.

PRIZE FOR BEST DRILLED COMPANY, a sword given by Board of Trustees.

1906, *F. H. Mohns,* Jefferson County.

LIBRARY.

LIBRARIAN JAMES R. RUTLAND.

ASSISTANT IN LIBRARY, M. A. FRAZER.

The Library occupies an elegant well-lighted room in the main building, and also three adjacent rooms. It contains over 21,000 bound volumes, including valuable reference and scientific books, with select editions of standard authors, and others suitable for students, carefully and recently selected. It is kept open eight hours daily for the use of students as a reading room, and is thus made an important educational feature.

MUSEUM.

The Museum occupies a large room in the third story. It is provided with suitable cases and is equipped with valuable specimens and models of an instructive character.

EXPENSES.

There is no charge for tuition for a resident of Alabama.

Incidental fee, per session	$ 5 00
Library fee, per session	2 00
Surgeon's fee, per session	5 00
Laundry fee, (first term)	5 50
	$17 50

These fees are payable on matriculation. *By order of the Trustees no fees can be remitted.*

The remainder of laundry fee, $7.00, is payable on entrance in second term.

Board, including lodging, fuel and lights, is furnished at $12.50 to $15.00 per month.

For a non-resident of the State there is a charge of tuition of $20.00 per session, payable on matriculation, in addition to the annual fee payable by all students.

The necessary expenses for a session, not including uniforms or books, are for a resident of Alabama, as follows:

College fees	$ 12 00	$ 12 00
Laundry fee	12 50	12 50
Board, lodging, fuel, and lights	112 50	135 00
Total	$137 00	$159 50

By special arrangement with the college authorities, Mrs. M. L. Mitchell, and Mr. B. T. Blasingame will accommodate students with board, lodging, fuel, etc., for $9.50 per month.

By boarding at one of these houses the necessary expenses may be reduced to $106.50 per session. This estimate does not include the cost of the uniform, about $15.00, or of books, say from $5.00 to $15.00, or the laboratory fees in the higher classes, $5.00.

LABORATORY FEES.

For each student in the junior or senior laboratory in pharmacy, chemistry, electrical, or mechanical engineering, a fee of $5.00 per session is required for each department. This fee is payable *on admission to the laboratory,* and is not remitted.

Special students in laboratory work will pay additional fees for each separate division of work, and will be charged with all material consumed in experiments.

NON-RESIDENT STUDENTS.

Tuition for students, not residents of Alabama, is $20.00 per session, unless remitted by the Trustees to worthy students upon the recommendation of the Faculty.

The remission of this tuition fee to non-resident students will be granted in the form of a free scholarship for the succeeding year, to those who obtain a distinction the preceding year, or who, by reason of merit, are deemed worthy.

This tuition for non-residents is remitted to sons of ministers of the gospel.

HONOR SCHOLARSHIPS.

The following non-resident students were granted, each by reason of special merit in conduct and scholarship during the session of 1905-06, an honor scholarship, which exempted from tuition fees:

Dexter Edge	Georgia
Edwin Alexander Harriss	Georgia
John Thomas Moore, Jr.	Georgia
Ormon Nimmons Powell	Georgia
Charles Solomon Ripley	Georgia
Herman Herbert Schomburg	Georgia
Samuel Robert Shi	Georgia
Henry Brant Whitaker	Georgia

UNIFORMS.

A uniform of cadet gray cloth is prescribed, which all undergraduate students are required to wear during the session. The uniforms are made by a contractor, and are of excellent cloth manufactured at the Charlottesville mill. A suit, including cap, costs at present $15.00. It is neat and serviceable, and less expensive than ordinary clothing.

CONTINGENT FEE.

A contingent fee of five dollars is required to be deposited by each student on matriculation to cover any special or general damage to college property for which he may be liable. General damages are assessed on the body of students.

At the close of the session the whole of the contingent fee, or the unexpended balance, is refunded to the student.

AMOUNT OF DEPOSIT.

Fees to be paid on entrance:

Incidental	$ 5 00
Library	2 00
Surgeon	5 00
Contingent	5 00
Uniform	15 00

Laundry fee for first term	5 50	
For a resident of Alabama	$37 50	$37 50
Tuition non-resident		$20 00
For a non-resident		$57 50

Besides the above, the student should deposit with the Treasurer enough to pay for books, one month's board, incidentals, amounting to say $27.50. Hence, a resident of Alabama should deposit with the Treasurer $60.00; a non-resident, $75.00. For a student entering after January 1st, the deposit for laundry fee is seven dollars ($7.00).

FUNDS OF STUDENTS.

Parents and guardians are advised to deposit with the Treasurer of the college all funds desired for sons or wards, whether for regular charges or college fees or board, or for any other purpose. It is the duty of this officer to keep safely all funds placed in his hands, and to pay all expenses incurred by the students, including board, uniform, books, etc.

The college cannot be held responsible for the expenses of a student, unless the funds are deposited under specific instructions from the parent or guardian to the Treasurer. No student should be permitted to have a large amount of pocket money, as it brings only trouble and encourages idleness.

THESIS.

Each applicant for a degree is required to write and submit to the Faculty a thesis, or oration, and read or deliver the same at Commencement, if required by the Faculty.

There may be presented, with the approval of the professor in charge, a carefully written report of special work done in a laboratory, showing independent investigation and discussion of some subject.

It must be given to the Professor of English by the first of May.

The subject must be submitted for approval by January 1st.

LITERARY SOCIETIES.

There are two literary societies connected with the college—the Wirt and the Websterian. Each has a hall in the main building.

These societies hold celebrations on the evenings of Thanksgiving Day and 22d of February. A gentleman, selected by the Faculty, is invited to deliver an address before the Literary Societies at Commencement.

To encourage the literary societies the Trustees have directed that a medal be awarded on Commencement Day to the member of each society who is both efficient and regular in attendance, and who is the best debater. The method of selection is determined by the Faculty.

EXERCISES IN ELOCUTION.

On every Saturday morning, immediately after chapel services, oratorical exercises in declamation and in original orations are conducted by the Professor of English, in the presence of the Faculty and students.

The *first and second terms* the students of the junior and sophomore classes are exercised in original orations and in declamations.

The *second and third terms* the members of the senior class read essays or deliver original orations.

SOCIETY OF THE ALUMNI.

The annual alumni oration is delivered by a member of the society in Langdon Hall, on Alumni Day, Tuesday of Commencement week.

Thomas D. Samford, '88, Opelika, Ala	President
E. M. Oliver, '76, LaFayette, Ala	Vice-President
R. D. Webb, '97, Auburn, Ala	Secretary-Treasurer
Champe S. Andrews, '94, New York	Orator for 1907

SURGEON.

The surgeon is required to be present at the college daily, to visit at their quarters the cadets that are reported sick, and to give all requisite medical attention without other charge than the regular surgeon's fee, paid on entering college.

LOCATION.

The Institute is situated in the town of Auburn, fifty-nine miles east of Montgomery, on the line of the Western Railroad.

The region is high and healthful, noted for its general good health and freedom from malaria, having an elevation of eight hundred and twenty-six feet above tide-water. By statute of the State the sale of spirituous liquors and the keeping of saloons of any kind are forbidden.

ACADEMIC YEAR.

The academic year for 1907-1908 commences on Wednesday, 4th September, 1907, and ends on Wednesday, 3rd June, 1908, which is Commencement Day.

It is divided into three terms. The first term extends from the opening of the session to Friday, December 20th; the second term begins Thursday, January 2d, and ends March 7th; the third term continues to the close of the session.

ACCESSIONS TO LIBRARY BY DONATION, 1906-1907.

Gen. J. H. Lane—Tunneling, Drinker.

Dr. Eugene A. Smith—Geol. Bulletin on Cahaba Coal Field.

New Zealand Government—Geography of New Zealand—McDonald.

Wm. N. Sheals—Report of Florida Schools, 1903.

W. F. Melton—Blumengarten—Lueder .

Congress of Arts and Science—(St. Louis Exposition)—Vols. VI., III., VII.

U. S. Government—171 Volumes (documents).

Hon. J. H. Bankhead—78 Volumes. (Publications of U. S. Government.)

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